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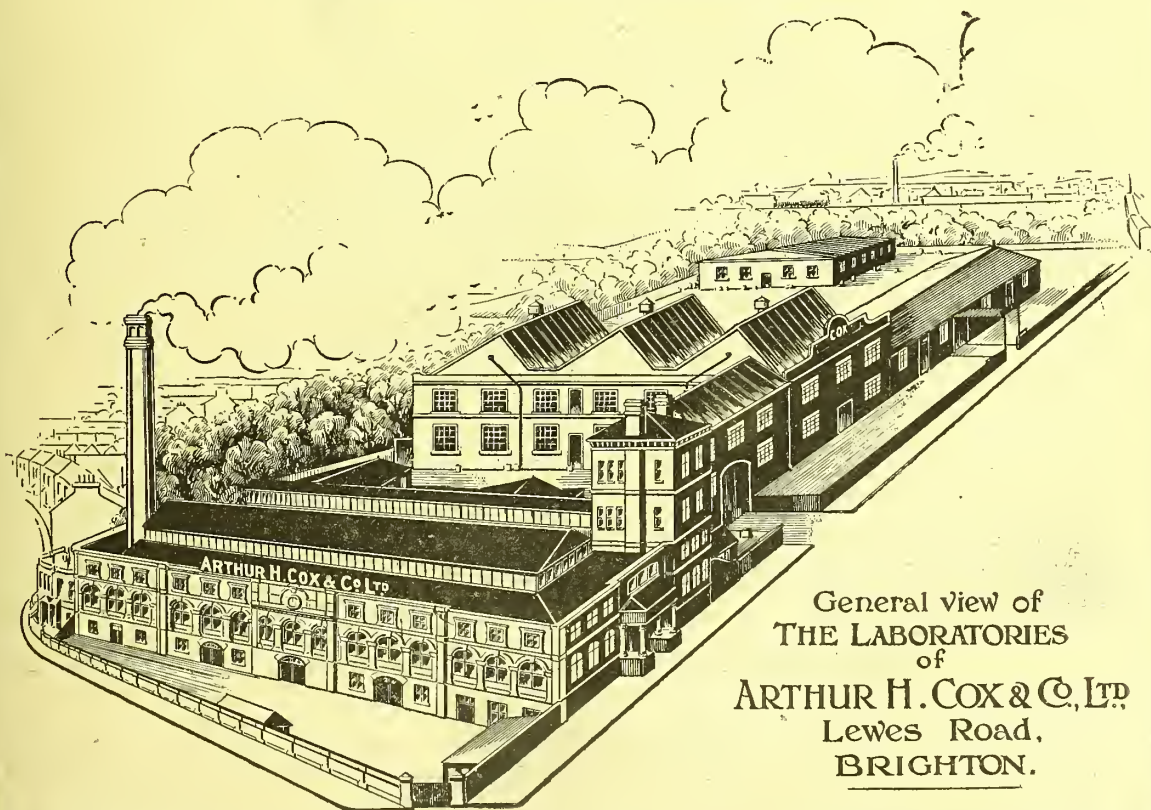
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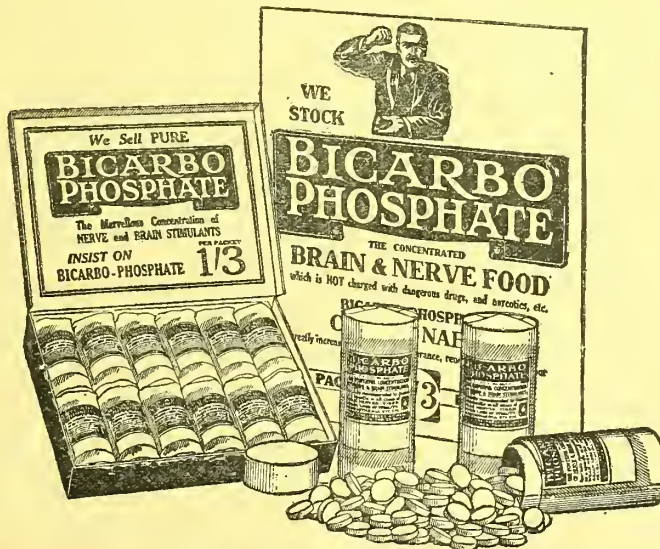
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The next opportunity for distributing Illustrated Circulars, Price Lists, or other advertising literature as Insets will be in the Winter Issue, JANUARY 27, 1917. Advertisers should, however, give this matter their attention now, and communicate with THE PUBLISHER, "THE CHEMIST AND DRUGGIST," 42 CANNON STREET, LONDON, E.C., who will be pleased to give further particulars.

OLDFIELD, PATTINSON & CO.

TELEGRAMS: "OPIUM MANCHESTER."

TELEPHONES: "CITY 984 & 4038."

A RELIABLE HOUSE FOR
All Pharmaceutical Preparations.CONCENTRATED WATERS
CONCENTRATED INFUSIONS.B.P. Tincture. **OPIUM** Aqueous Tincture.

Syr. Glycerophosph. Co.

LIQUID EXTRACTS.
LEVIGATED OINTMENTS
ESSENTIAL OILS.

"Silver Churn" Dairy Specialities.

Special Prices to Large Buyers.

Write for List.

MANCHESTER.

Awards: London, 1881; Vienna, 1883; Calcutta, 1884; Chicago, 1893.

CONTRACTORS TO H. M. GOVERNMENT.

ZINC OXIDE "PURISS."

Made by direct combustion of the metal.

We have also fair stocks of other grades testing up to 99.6 % ZnO, which is, however, a much higher degree of purity than other houses' "best."

The Zinc Oxide "Puriss" is the whitest and lightest made, testing 99.8 % ZnO, a degree of purity not usually associated with a product made on a commercial scale. It has been known and appreciated by the Drug trade in all parts of the world for a third of a century.

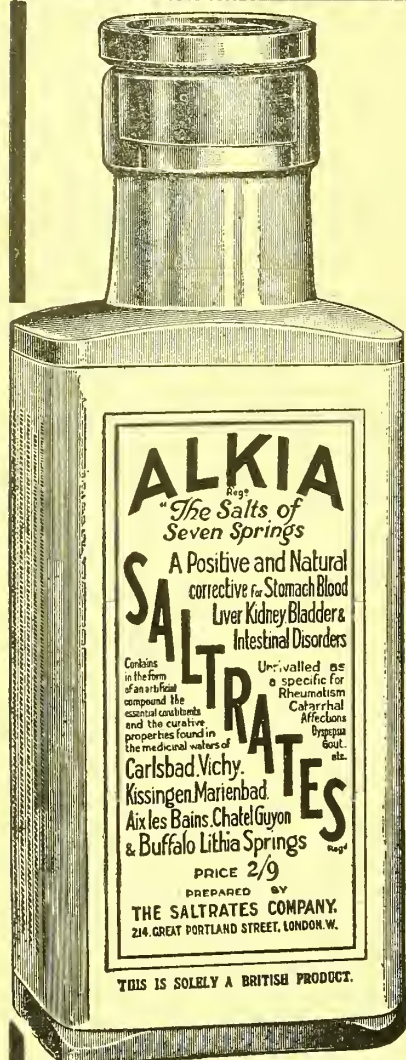
It is interesting to note that the price of Zinc (Spelter) has had a greater advance than is the case with any other metal since the outbreak of the War.

H. E. STEVENSON & CO.

Manufacturing Chemists and Wholesale Druggists,

122 GREAT SUFFOLK ST., LONDON, S.E.

MR. STEVENSON was for many years a Director of BAISS BROTHERS & STEVENSON, Limited.



ALKIA SALTRATES

The most efficient saline on the market and best value for the money. Pleasant tasting and always pleases the user. A widely advertised line which you can recommend with absolute confidence.

Sells at 2/9 a bottle
(P.A.T.A.)

Carriage paid in United Kingdom on orders for 3 dozen, which may be assorted.

REUDEL BATH SALTRATES

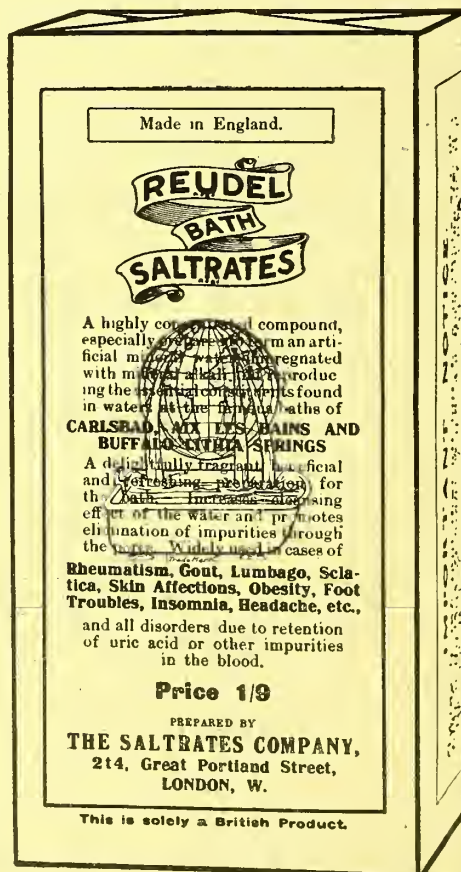
The best selling and most fragrant, refreshing, beneficial and all-round satisfactory preparation for the bath. Now being extensively advertised.

Sells at 1/9 and 2/9 (P.A.T.A.)

KALSEL

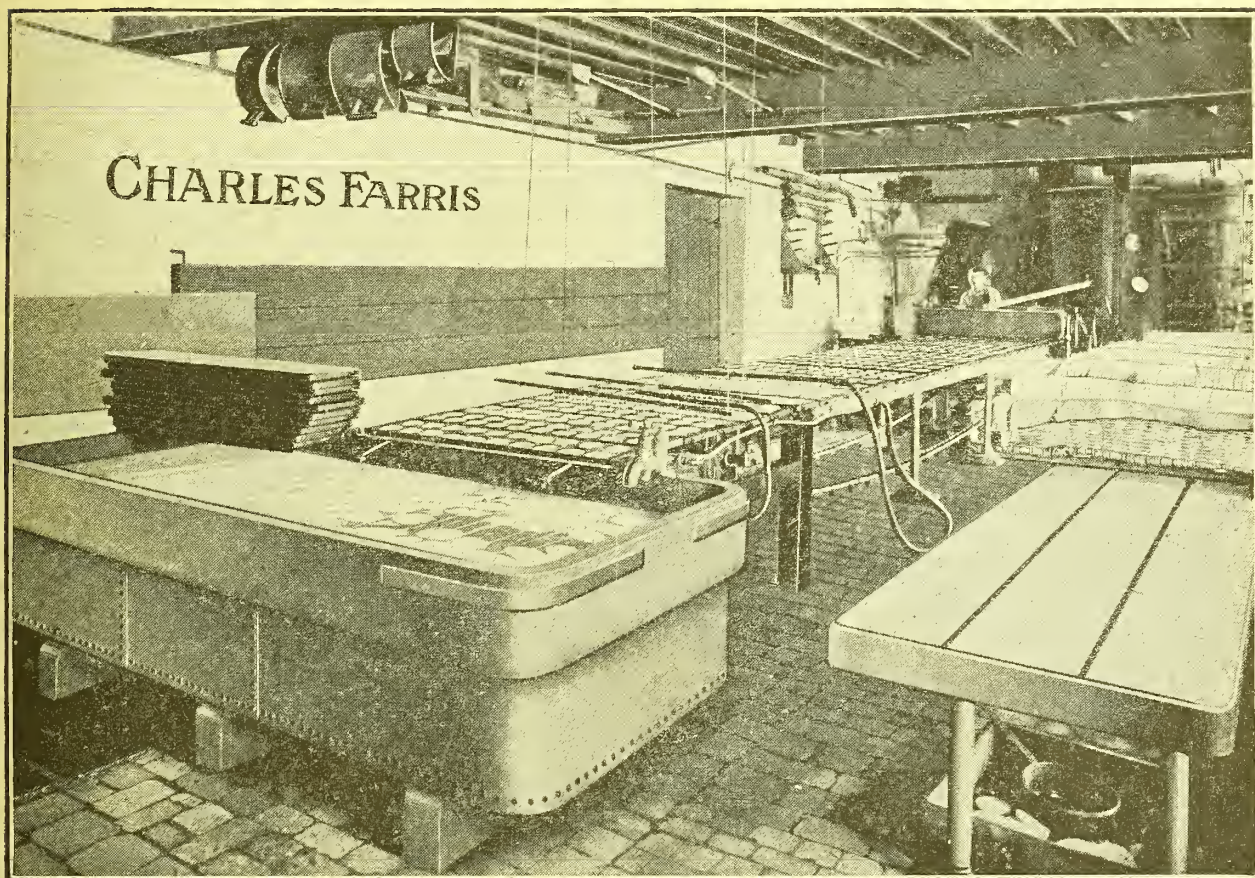
An especially strong but pleasant-tasting effervescent saline for severe and chronic constipation.

Sells at 1/9 a bottle (P.A.T.A.)



Farris's Genuine Air Bleached White Beeswax.

CELEBRATED FOR EXCELLENCE AND PURITY NEARLY THREE-QUARTERS OF A CENTURY.



FARRIS'S PROCESS No. 5. — THE BLEACHED BEESWAX BEING MELTED INTO DISCS AND CARRIED ALONG AUTOMATICALLY TO THE COOLING TANK.

PURE ENGLISH REFINED SPERMACETI, Paraffin Wax, Ceresine, Stearic Acid, Pure Olive Oil, Castor Oil, Palm Oil, Peach Kernel Oil, Cod Liver Oil, Slab Oil, "Farrisol" Paraffinum Liquidum B.P., "Farrisol" Snow White Opaque Jelly Lanoline, White Oils, &c. Oil Refiner to H.M. Government.

GENUINE & COMMERCIAL BEESWAX in $\frac{1}{2}$ oz., 1 oz., 2 oz. and 4 oz. Rounds.

WAXES of EVERY KNOWN KIND.



SAMPLES MATCHED AND LOWEST PRICES SUBMITTED.



WAXES PREPARED FOR SPECIAL PURPOSES.

The only actual Manufacturing Wax Chandler in the City of London.

CHARLES FARRIS, 71 Bishopsgate, London, E.C.

Works: HELMET COURT, BISHOPSGATE, E.C.

Warehouses and Stores: 91 & 93 BISHOPSGATE, and 12 WORMWOOD STREET, E.C.

Telephones: LONDON WALL 9397 and 9398.

Telegrams: "WAXINE'S, LED, LONDON."

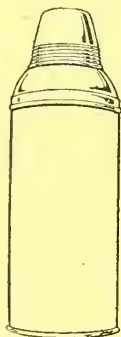
Maw's

S MAW SON & SONS
(GPO BOX N° 54)
7-12, ALDERSGATE ST.
LONDON E.C.

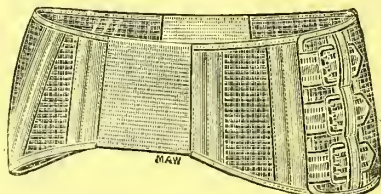
Page

NUMBER 250

JULY 29, 1916



MAW'S
VACUUM FLASKS.
9½ in. high. 3/- each.
By 1 doz., 2/10 each. By
case of 50, 2/8 each net

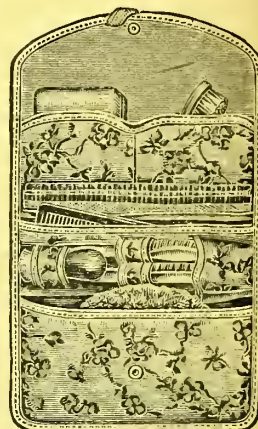


MAW'S GOSSAMER BELT.

For summer and tropical wear. Fitted with
thread elastic sides. This belt affords a com-
fortable and beneficial support to the abdomen.
Stock sizes, in card box, 6/3 each.



MAW'S
"ENCHANTRESS"
BATHING CAPS.
No. 5 (as illustrated),
30/- doz.
No. 6 (similar to No. 5),
27/- doz.

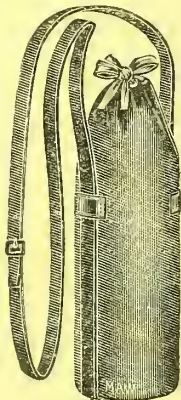


MAW'S
RUBBER-PROOFED
TOILET HOLDALLS.

14/C2. Fancy floral pattern,
16×9½ in., 20/-
13/C2. Check cambric pattern,
16×9½ in., 20/-

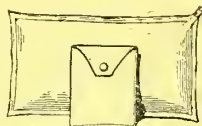


MAW'S
"ENCHANTRESS"
BATHING CAPS.
Many charming
colours.
No. 2. 16/- doz.



MAW'S VACUUM
FLASK COVERS.

Khaki. Fitted with
shoulder straps and
tape for fastening. Very
strong and serviceable.
Price 10/6 doz.



MAW'S AIR PILLOWS.
Khaki-covered rubber. Measures
17×12 in. when inflated.
Waterproof case. 48/- doz.



MAW'S
"ACTIVE SERVICE"
SOLIDIFIED BRILLIANTINE.
Perfumed with Bay Rum.
In screw-cap tins. 4/9 doz.



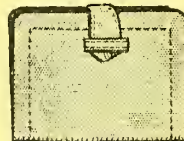
MAW'S NO. 11
EAU DE COLOGNE.
In handsome bottles.
10/- and 17/- doz.
With showcard.



MAW'S
SPIRIT FLASKS.
All metal patterns.
Concave ... 2/3 to 6/9 each.
Tall ... 5/9 to 8/9 each.



MAW'S "PAREX" SHAMPOO POWDER.
Imparts a lasting fragrance to the hair, leaving it bright
and glossy.
Put up in boxes containing seven packets. 8/6 doz. boxes.
With Bonus.



MAW'S
WATERPROOF SEATS.
Made of a stout brown
waterproof sheet,
12×18 in., folding up
into a handy pocket
companion, 4½×5½ in.
16/- doz.

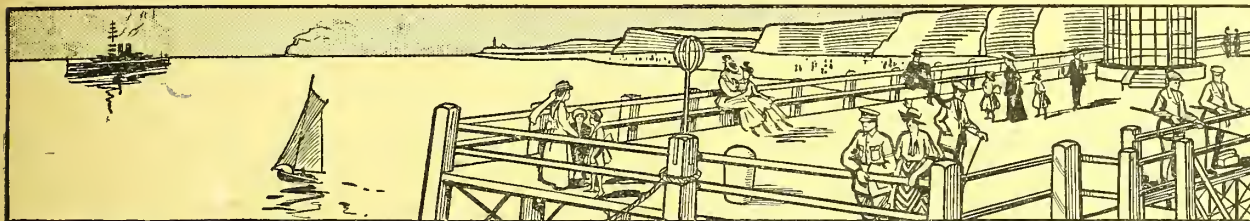


MAW'S "PAREX"
TOOTH POWDER.
The fragrant dentifrice
in the handsome art tin.
8/6 doz.
With Bonus.

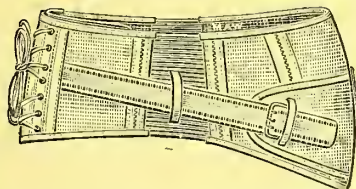


MAW'S
BATHING CAPS.
The "Enchantress." No. 3.
24/- doz.

Summer Lines for



MAW'S "PAREX"
DENTAL CREAM.
Put up in collapsible tubes
in beautiful cartons.
7/9 doz. With Bonus.



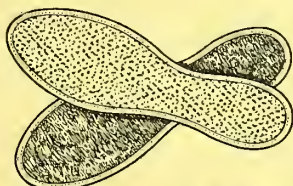
MAW'S GOSSAMER ABDOMINAL BELT.
For summer and tropical wear. Fitted
with thread elastic sides and fulcrum band.
Each in card box. 8/3 each. Stock sizes.



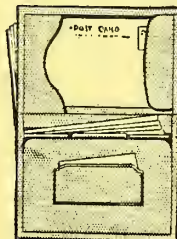
MAW'S SPONGE BAGS.
The "Reliable," proofed inside
and out. Colour, chocolate
brown. A distinctive article.

Prices per dozen:

No. 1	2	3
Size 7x6	8x7	9x8
8/-	12/-	12/-
No. 4	5	6
Size 10x9	11x10	12x11
15/-	18/-	21/-



MAW'S "AERO"
SOCKS.
Stock sizes.
For "Tommy's"
and tourists.
Price 4/- doz.



MAW'S WRITING
COMPANIONS.

The "Aye - Ready"
Letter Case, in stout
waterproof khaki ma-
terial. Fitted with
stationery. 18/- doz.



MAW'S
"ENCHANTRESS"
BATHING CAPS.
No. 4. 27/- doz.



MAW'S
"ENCHANTRESS"
BATHING CAPS.
No. 0. A simpler style of
No. 1, 12/- doz. No. 1 (as
! illustrated), 16/- doz.

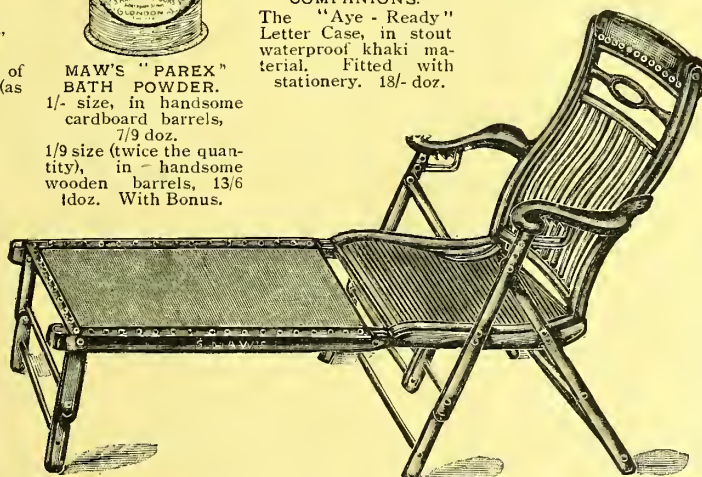


MAW'S "PAREX"
BATH POWDER.
1/- size, in handsome
cardboard barrels,
7/9 doz.
1/9 size (twice the quan-
tity), in - handsome
wooden barrels, 13/6
1doz. With Bonus.



MAW'S
"ACTIVE SERVICE"
FOOT POWDER.

An excellent prepara-
tion. Put up in attrac-
tive sprinkler-top tins.
With showcard, 24/-
gross.



MAW'S FOLDING LOUNGE CHAIR.

A well-made article, suitable for garden use. Made of polished birch, and fitted with detachable leg rest and movable arms for adjusting back rest. It is light in weight and clean in appearance. Washable throughout, and folds up flat. Two sizes. Price 37/6 and 42/-. A good gift for a crippled warrior.

Making Business History

This is the two-hundred-and-fiftieth issue of "Maw's Page." The event is fittingly marked by a double number full of "the things that matter" in the sphere of pharmacy. "Maw's Page," during the five years of its weekly appearance, has filled a niche in the world of business of which we are proud. Its policy and production has won praise and encouragement from customers, from the publishing trade, and the advertising profession.

We have before us letters and post-cards from customers who have found "Maw's Page" sufficiently interesting to write and acquaint us of the fact. One appreciation is written in the form of an ingenious acrostic, the letters forming "Maw's Page" being the subject of the composition.

The *Chemist and Druggist* has on many occasions published interesting paragraphs concerning the progress made by this weekly announcement. There is but space for a brief quotation or so:

"Messrs. Maw have made their weekly announcements such a feature in each of our issues that they are looked for and studied well." (Oct. 5, 1912.)

"Few features in business propaganda have created more interest in the British drug trade." (Sept. 13, 1913.)

"An interesting development of modern advertising." (Jan. 31, 1914.)

"Of all the influences that you enumerate as tending to the continued success of this great firm, there is none, I think, that deserves greater credit than 'Maw's Page.' This is not the first time I have spoken of that page, I always look for it; I always read it; and what appeals to me must appeal to a very large proportion of the ten thousand other readers of the 'C. & D.' every week." (Xrayser 11., April 11, 1914.)

We are glad that our publicity efforts have been thought worthy of such tributes. That our customers find "Maw's Page" both interesting and reliable is evinced by the resultant orders.

Capsule

Economy Times

Bishop's Caffeine

**BRINGS QUICK RELIEF
FROM HEADACHES.**

Prompt in Action and quite Safe.

A harmless and pleasant stimulant, and restorative for mental fatigue, lassitude, depression and brain fag. Dissolves with bright sparkling effervescence.

Bishop's Varalettes

**THE MOST SUCCESSFUL
REMEDY FOR**

**Gout, Rheumatism, Rheumatic Gout,
Lumbago, Sciatica, Neuritis, Gouty Eczema,
Kidney Stone, Gravel, and all Uric Acid
Disorders.**

Bishop's Kissingen and Vichy

**TREATMENT FOR
OVER-FATNESS**

A safe and simple method of reducing weight and restoring the figure.

**NO INCONVENIENCE.
NO DISCOMFORT.
NO DIETING.
NO EXERCISE.
NO RESTRICTIONS.
NO SELF-DENIAL.**

This treatment is as pleasant and convenient to take as it is successful.

Soluble Salts of Acetyl-Salicylic Acid

"HYDROPYRIN"

(Lithium Acetyl-Salicylate.)

"KALMOPYRIN"

(Calcium Acetyl-Salicylate.)

More prompt and definite in action than the acid, and free from all unpleasant after-effects. Completely soluble and therefore suited for dispensing in all forms.

**Analgesics, Antipyretics,
Anti-rheumatics.**

**PATENTED AND MADE ONLY
BY ALFRED BISHOP, LTD.**

Bishop's



Natural Fruit Saline

makes a delightfully palatable beverage; cools and purifies the blood; clears the liver and kidneys, and acts as a mild aperient.

Keeps well in any climate and is a ready seller.

Bishop's Magnesia

**THE ORIGINAL & STANDARD
FOR OVER HALF-A-CENTURY.**

This was the first Granular Effervescent preparation, and was invented by Alfred Bishop in 1857.

Unequalled for Purity and Palatability and for keeping Properties in any Climate.

A valuable Febrifuge, Antacid, and Cooling Refreshing Draught.

**BISHOP'S MAGNESIA IS
SOLD THE WORLD OVER**

Piperazine Citrate

**A PURELY ENGLISH
PIPERAZINE PRODUCT.**

**Made only by us for nearly 20 years.
Widely Prescribed by Medical Men.**

Piperazine Citrate is in numerous important respects superior to Piperazine base, but we also supply

Pure Piperazine

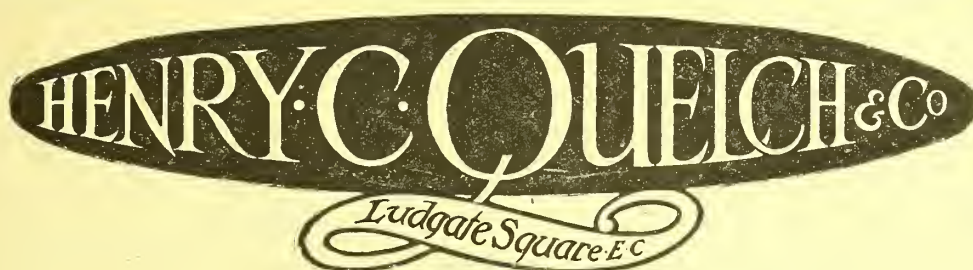
ALL BISHOP'S PROPRIETARIES ON P.A.T.A. AT FULL FACE VALUE.

ALFRED BISHOP, Ltd.

MANUFACTURING CHEMISTS,

48 SPELMAN STREET, LONDON, N.E. ENGLAND.

Established 1857.



ARE AGENTS FOR:—

The ANTISEPTIC FILE Co.	SIBLEY'S STANDARD AND TOILET PUMICE, S. & H. CORN FILES.
C. J. BATES & SON	MANICURE INSTRUMENTS, FLEXIBLE FILES, POLISHERS, EMERY BOARDS, ORANGE STICKS, AND EVERY OTHER KIND OF MANICURE REQUISITE.
A. BOURJOIS et Cie	JAVA POWDER, ROUGES, EYEBROW PENCILS, LIPSALVES, PERFUMES, SOLID POWDERS, ETC.
CLAIRE et Cie	GREASE PAINTS, COCOA BUTTER, NIGGER BLACK, CARMINE FOR THE LIPS, CUTICLE CREAM, NAIL POLISHING PASTE, NAIL POLISHING STONES, NAIL POLISHING STICKS, ETC.
R. T. DUN	GELATINE CAPSULES—HAND-MADE ONLY.
HARVA RUBBER WORKS	SURGEONS' AND HOUSEHOLD I.R. GLOVES.
ICY-HOT BOTTLE Co.	VACUUM FLASKS.
HENRY TETLOW	SWAN DOWN & GOSSAMER FACE POWDERS
TOP-NOT Co.	PREPARATIONS FOR THE HAIR.

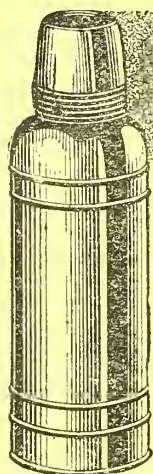
PAPIER POUDRE. PETAL DUST. MOORE'S SOAP LEAVES.
"SYRACUSE" SUSPENSORY BANDAGES. "NEAR-KID" CAPPING SKINS.
"LUCKSTONE" BEAUTY SECRET, RUBYTINT, and other preparations.

WE ARE ALSO MANUFACTURERS OF:—

BRILLIANTINE.	BATH CRYSTALS.	LIPSALVE.
TOILET PARAFFIN.	SMELLING SALTS.	PERFUMES, 6d. & 1/-.
LIME CREAM.	BAY RUM.	SHAMPOO POWDERS.
COLD CREAM.	NAIL STICKS	TOILET POWDERS.
EAU DE COLOGNE,	AND STONES.	BATH POWDERS.
NAIL CREAM.	LAVENDER WATER.	ORANGE STICKS.
NAIL PASTE.	MANICURE CASES.	EMERY BOARDS.
STYPTIC PENCILS.	MANICURE ROLLS.	

**FOREIGN AND COLONIAL BUYERS ARE SPECIALLY INVITED TO
COMMUNICATE WITH US.**

See 4 following pages.



ICY-HOT

VACUUM

BOTTLES

FLASKS

WE GUARANTEE that these bottles are
made in America by American Workmen.

NOT AFFILIATED WITH ANY GERMAN COMPANY.

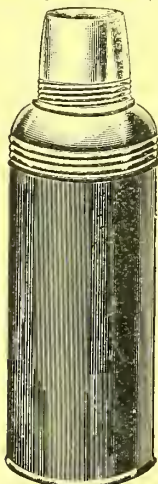
ALL BOTTLES EQUALLY GUARANTEED TO
Keep Hot things Hot 30 Hours. Keep Cold things Cold 3 Days.

NEW IMPROVED STYLE

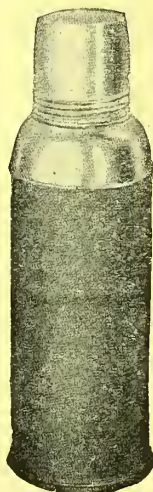
23/6/7

Imitation Leather
Enamelled on Metal

Pints { Retail, 4/11
48/6



This is the best Bottle
on the market, and buyers
are recommended
to order this pattern in
preference to the old
style.



Old Style, No. 23/6/7

Imitation Leather
Enamelled on Metal

4/6
48/6



No. 22

Corrugated
Nickel-Plated

8/6
80/-



No. 44

Best Plain
Nickel-Plated

10/6 each.
92/- dozen.

No. 63/66

Quarts { Retail 9/6
90/-

No. 62

12/6
111/-

No. 88.

15/6 each.
135/- dozen.

No. 16. $\frac{1}{2}$ pints (same quality as No. 23/6/7), 45/- dozen. No. 46. $\frac{1}{2}$ pints (same quality as No. 44), 83/- dozen.
No. 1. 1 pint (same quality as No. 23/6/7, but solid leather covered), 66/- dozen.

REFILLS. $\frac{1}{2}$ Pint, 35/- 1 Pint, 38/- 1 Quart, 75/- dozen.

KHAKI-COLOURED CANVAS CARRIERS, with Sling. Pint size, 12/- Quarts, 24/- doz.

SOLID LEATHER CARRIERS, with Sling (British Made), Pints, 90/- doz.

SLINGS (British Made), Pints, 24/- doz. Quarts, 30/- doz.

SPARE CORKS. Pints, 1/6 dozen. Quarts, 2/- dozen.

Write for full catalogue and our new Topical Showcard by Captain Bruce Bairnsfather, the well-known War Artist.

HENRY C. QUELCH & CO
Ludgate Square E.C.

OR THROUGH ALL WHOLESALE
LONDON & PROVINCIAL HOUSES.

Two of the World's Face Powders



Bourjois' Java Powder

Price 7/6 doz.; 12 doz. 7/- P.A.T.A. 10½d. per box.

POPULAR
EVERYWHERE.

BOURJOIS'

Eyebrow Pencils,
Rouges,
Perfumes,
Soaps, etc.,

always command a
ready sale.



Bourjois' Poudre Manon Lescaut

Price 20/- per doz. P.A.T.A. 2/9 per box.

SOLID FACE POWDER (Poudre Compacte)

BOURJOIS of PARIS
is the
POWDER HOUSE.

Our Solid Powder, with Puff,
No. 65, IS THE BEST.



Made in Seven Tints.

Rose, Naturelle,
Rachel, Blanche,
Rosette Brun,
Ocree, & Mauve.

6/- per dozen

DO NOT BE MISLED BY BUYING CHEAP AND WORTHLESS IMITATIONS OF THIS ARTICLE.

No. 2. "ASHES OF ROSES" (Rosette Brun)

*This is the most successful line
Bourjois have placed on the market
for many years.*

We strongly advise every
Chemist who is not already
doing so to place 1 dozen on
his counter.



*It is exquisitely perfumed with Otto
of Rose, and a Pocket Puff with
silk band is supplied with each box.*

PRICE 7/6 PER DOZ.

All Messrs. A. BOURJOIS
ET CIE'S goods are subject to
an advance of 10% and 4½%.

May be
obtained from
all the
Wholesale
London and
Provincial
Houses, or
from

HENRY C. QUELCH & CO

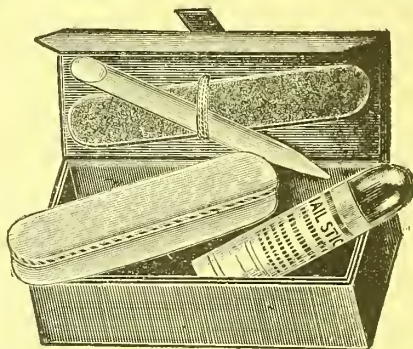
Ludgate Square E.C.

MANICURES & ACCESSORIES

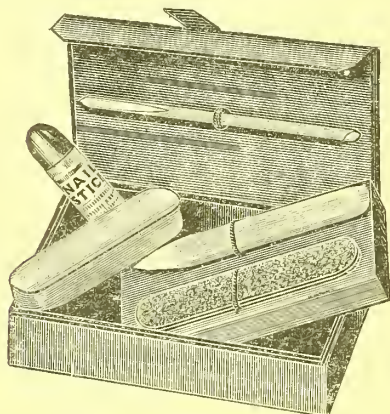


No. 0 Paper Case, containing Orange Stick, Emery Board, Polishing Stick and Leather. **2/9** per doz.

STOCKS ARE
LIMITED.
PLACE YOUR
ORDERS
AT ONCE.



No. 1 Leatherette Case, containing Nail Polish Stick, Leather-covered Boxwood Polishing Pad, Orange Stick and Emery Board. **4/6** per doz.

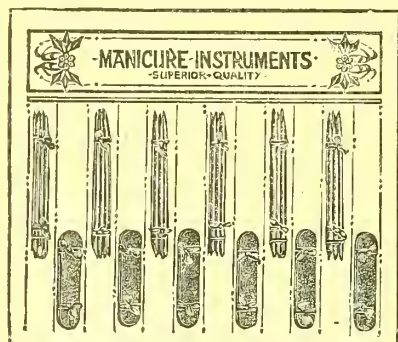


No. 4 Leatherette Case, containing Emery Board, Orange Stick, Nail Polishing Pad and Stick, and Bone Nail Cleaner and Cuticle Pusher combined. **8/9** per doz.

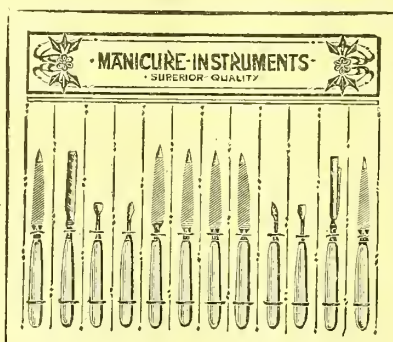
A selection of
Fitted Cases
from **2/9** doz.
up to **21/-** each
can be sent on
demand.



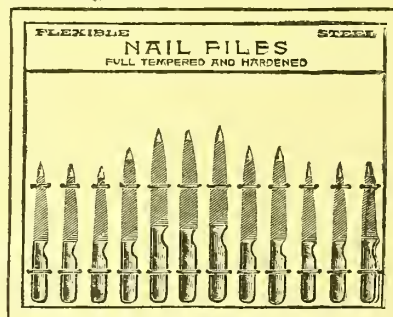
"The Daphne" in handsome case, covered with wood veneer and fancy paper, containing Nail Polishing Pad, Nail Polishing Stick, Flexible Steel File and Trimmer, and two Orange Sticks. **9/-** doz.



No. 101 Card contains six bundles of Emery Boards and Orange Sticks. **4/-** card.



No. 15 contains one doz. assorted Manicure Instruments, retailing 1/- to 1/6 each. **4/6** card.



No. 1 contains 12 assorted Flexible Files ... **3/9** card
No. 2 " " " **4/6** "
No. 3 " " " **5/6** "
No. 4 " Nickel-Plated, **6/6** "

HENRY C. QUELCH & CO

Ludgate Square E.C.

Telephone: 468 NEW CROSS.

Telegrams: "DENOUALS, PECK, LONDON."

Established 1859.

JULES DENOUAL & CO.

CURRENT PRICE LIST



MANUFACTURERS OF

MEDICATED LOZENGES.
PASTILLES and JUJUBES.
FLORAL CACHOUS.
MEDICINAL CAPSULES.
COMPRESSED TABLETS.

ACIDULATED DROPS
and TABLETS.
SUPPOSITORIES,
PESSARIES,
BOUGIES, &c., &c.

SOLE AGENTS FOR

CLAUDE RAYNAUD & Cie., Perfumes and Essential Oils.

THE TASMANIAN EUCALYPTUS OIL CO., Ltd., Platypus
Brand Oil of Eucalyptus Globulus, &c.

Carlton Works, Asylum Road, LONDON, S.E.

JULES DENOUL & CO., Carlton Works, Asylum Road, LONDON, S.E.

PASTILLES & JUJUBES

PREPARED with a basis of finest quality Gum Acacia, Glycerine and Sugar. Owing to our special method of coating, our Jujubes and Pastilles do not stick together, and they retain their bright appearance.

Any Pastille can be made a special shape, colour or flavour, in quantities of not less than 56 lbs. at a time, without extra charge.

Special formulæ made up into Pastilles. Quotations on demand. We supply all Medicated Pastilles in two varieties, viz.: Bright coated or Crystallised, as desired. Where variety is not specified on order, we send the one most in demand.

Our Glycerine and Black Currant, Glycerine and Blackberry and other fruit combinations are prepared from the fresh fruit and picked Gum Acacia. There is no starch or gelatine in them, and the flavour and efficacy of the fresh fruits are combined with the demulcent properties of the pure glycerine which they contain. The ingredients are not only the best in quality and most approved in nature, but the Pastilles are produced in elegant manner in several varieties.

PACKED IN FREE 4 lb. TINS.

	per lb		per lb.
Antiseptic (Licorice, Terebene, Menthol, Eucalyptol, Wintergreen Thyme, Pine Oil and Glycerine) ...	1/6	Greengage ...	1/4
Apricot ...	1/4	Honey and Eucalyptus ...	1/6
Blackberry and Glycerine ...	1/6	Iceland Moss Jujubes (cut square) ...	1/6
Black Currant ...	1/6	Laxative Lime Fruit (Lime Fruit, Sulphur and Cream of Tartar) ...	1/6
„ and Eucalyptus ...	1/6	Lemon Juice ...	1/6
Black Currant and Glycerine ...	1/6	Licorice ...	1/6
Bramble ...	1/6	Licorice Compound ...	1/6
Bronchial Cough ...	1/6	Licorice, Menthol and Eucalyptus ...	1/6
Chlorate of Potash ...	1/6	Lime Fruit Juice ...	1/4
Chlorodyne, Linseed and Licorice ...	1/6	Linseed, Licorice and Chlorodyne ...	1/6
Cocaine and Menthol ...	1/8	Magnum Bonum Jubes (cut long) ...	1/6
Cocaine, Menthol and Eucalyptus ...	1/8	Malt Pastilles ...	1/6
Cocaine, Red Gum and Eucalyptus ...	1/8	Malt and Eucalyptus ...	1/6
Cocaine, Red Gum, Menthol and Eucalyptus ...	1/8	Menthol Pastilles ...	1/6
Cocaine and Rhatany ...	1/8	Menthol and Cocaine ...	1/8
Compound Terebene (Terebene, Eucalyptus, Menthol, and Cocaine) ...	1/8	Menthol and Eucalyptus ...	1/6
Cough ...	1/6	Menthol, Eucalyptus and Cocaine ...	1/8
Delectable Jujubes (cut long) ...	1/6	Menthol, Eucalyptus and Licorice ...	1/6
Delectable Pastilles ...	1/6	Menthol, Eucalyptus and Pine Oil ...	1/6
Eucalyptus Oil ...	1/6	Menthol and Pine Oil ...	1/6
Eucalyptus and Black Currant ...	1/6	Mixed Fruit ...	1/4
Eucalyptus and Glycerine ...	1/6	Paregoric and Glycerine ...	1/6
Eucalyptus and Honey ...	1/6	Pine Oil ...	1/6
Eucalyptus and Malt ...	1/6	Pine Oil and Eucalyptus ...	1/6
Eucalyptus and Menthol ...	1/6	Pine Oil and Menthol ...	1/6
Eucalyptus, Menthol and Cocaine ...	1/8	Pine Oil, Menthol and Eucalyptus ...	1/6
Eucalyptus, Menthol and Licorice ...	1/6	Raspberry ...	1/4
Eucalyptus and Pine... ...	1/6	Red Currant ...	1/4
Eucalyptus, Red Gum and Cocaine ...	1/8	Red Gum, Eucalyptus and Cocaine ...	1/8
Eucalyptus, Red Gum, Menthol and Cocaine ...	1/8	Red Gum, Eucalyptus and Menthol ...	1/8
Eucalyptus, Terebene, Menthol and Cocaine ...	1/8	Red Gum and Menthol ...	1/8
Glycerine ...	1/6	Rhatany and Cocaine ...	1/8
Glycerine and Black Currant ...	1/6	Rhatany and Menthol ...	1/8
Glycerine and Chlorate of Potash ...	1/6	Rose Pastilles ...	1/4
Glycerine and Cranberry ...	1/6	Strawberry Pastilles ...	1/4
Glycerine and Eucalyptus ...	1/6	Sulphur, Lime Juice and Cream of Tartar ...	1/6
Glycerine and Honey ...	1/6	Tannin and Glycerine ...	1/6
Glycerine and Paregoric ...	1/6	Terebene, Eucalyptus, Menthol and Cocaine ...	1/8
Glycerine and Tannin ...	1/6	Voice Pastilles ...	1/6
		Voice Jujubes (cut long) ...	1/6

All varieties of pastilles can be supplied packed in Hand-some Gilt Tins with Litho Labels in Four Colours.

Customer's name and address on labels, if desired, free of extra charge for orders of not less than six dozen.



1 oz. tins
per **2/-** doz.

2 oz. tins
per **3/6** doz.

4 oz. tins
per **6/6** doz.

When ordering through your wholesale house specify "Denoul's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.

Licorice Extract Globules and Cushions

Licorice
Licorice and Menthol
Licorice, Eucalyptus and Menthol
Licorice and Ammon. Chlor.
Licorice, Peppermint and Aniseed

3/- per lb.

In 1 oz. decorated tins, **3/9** per doz.

Formalin Throat Tablets.

The popular antiseptic
for preventing infection
from Diphtheria, etc.



In screw cap bottles
each 50 x 15 grain
tablets.

per **5/6** doz.

In bulk **2/6** per lb.

Acidulated Drops and Tablets.

Lemon, Apricot, Greengage, Lime Fruit,
Raspberry, Strawberry, etc., etc.

per **11d.** lb.

Brimstone and Treacle Tablets.

(Each Tablet wrapped in Greaseproof paper.)

per **11d.** lb

Bismuthated Magnesia Tablets

(ANTACID)

Each Tablet contains—Carbonate
of Bismuth, 1 gr.; Carbonate of
Magnesia, 5 grs.

Packed in screw-cap bottles, each
50 tablets.

per **6/6** doz.

In bulk, **2/-** per lb.

Cinnamon and Formalin Lozenges

Screw-cap bottles, each 50.

per **6/6** doz.

In bulk, **2/6** per lb.

Indigestion Tablets

Containing Pepsine, Bismuth and
Pancreatin.

per **6/6** doz.

Screw-cap bottles, each 50 tablets.

In bulk, **2/6** per lb.

Chocolate Worm Cakes.

Each Tablet wrapped in Tinfoil
with full directions.

per **6/6** gross.



CURIOUSLY STRONG PEPPERMINT LOZENGES.

J. D. & Co.

1 oz. decorated tins, **3/-** per doz.



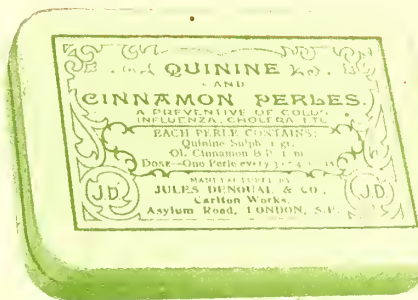
PINE TREE LOZENGES. J. D. & Co.

2 oz. Tins, **3/9** per doz.

When ordering through your wholesale house specify "Denoual's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.

J. D. BRAND CAPSULES AND PERLES.



J. D. QUININE AND CINNAMON PERLES.

7/6 per doz. Minimum retail 1/- per box

J. D. Capsules and Perles do not shrink nor contract. They retain their flexibility for any length of time, and are always readily soluble. The purity of the drugs employed and the correct quantity as indicated are guaranteed. They are specially prepared for export and keep well in all climates.



J. D. SANTAL OIL CAPSULES.

21 x 10 m. Capsules in each box, 18/- per doz. Minimum retail, 2/6 per box.

CAPSULES AND PERLES	Per 1,000	Per doz. Boxes containing in each Box 36 21	CAPSULES AND PERLES	Per 1,000	Per doz. Boxes containing in each Box 36 21
Acid Carbolic, 1 gr. (in oil) ..	9/-	6/6	5/-	Cubeb Oil, 5 m. ...	15/- 8/9 7/-
Ammon. Quin. Tr., 30 m. ...	14/-	6/-	5/-	.. 10 m. ...	20/- 11/- 8/-
" " " 60 m. ...	19/6	9/6	7/-	Easton's Syrup, 30 m. ...	11/- 7/9 6/-
Apiol, 3 m. ...	25/-	13/-	9/-	" " 60 m. ...	16/- 9/- 7/3
" 5 m. ...	36/-	20/-	15/-	Fucus Vesiculosus, Conct. Ext.—30 m.	14/6 8/6 6/6
" 3 m. Ergot 2 gr. (Bottles of 36, 22/- doz.) ...	42/-	22/-	16/-	(Gregory Powder=30 m. ...	14/6 8/6 6/9
Apiol & Steel Perles (Bottles of 36, 22/- doz.)	42/-	22/-	16/-	Guaiacol, 1 m. (in oil) ...	15/6 9/- 7/-
Blaud's Pill, 5 gr. ...	7/-	5/-	4/-	" 2 m. (") ...	28/6 15/3 11/-
" " 10 gr. ...	7/6	5/6	4/6	" 3 m. (") ...	40/6 21/- 14/6
" " 15 gr. ...	8/6	6/3	5/-	Guaiacol Carbonate, 5 gr. ...	94/- 43/9 30/-
Blood-forming Capsules ...	10/6	8/6	6/6	Hæmoglobin, 3 gr. ...	11/- 7/- 5/6
Cajuput Oil, 3 m. ...	9/-	6/6	5/-	" 5 gr. ...	14/6 8/9 6/6
Carbolic Acid, 1 gr. (in oil) ...	9/-	6/6	5/-	Ichthyol Ammon. 3 gr. ...	15/- 8/9 7/-
Cascara Sagrada=15 m. Fluid Ext. ...	7/6	5/6	4/-	" " 5 gr. ...	20/- 11/6 8/6
" " -20 m. " " ...	8/-	6/-	4/-	Malefern Extract, 5 m. ...	16/- 9/- 6/9
" " =30 m. " " ...	9/6	6/6	4/8	" " 10 m. ...	25/- 15/- 10/9
Castor Oil, 5 m. ...	6/6	5/-	4/2	" " 15 m. ...	38/- 20/- 14/-
" " 10 m. ...	7/6	5/6	4/8	" " 20 m. ...	50/- 27/- 17/-
" " 15 m. ...	9/6	6/9	5/6	Methylene Blue and Santal Oil, 10 m.	54/6 27/6 18/-
" " 20 m. ...	14/-	9/-	6/6	Nesbit's Specific Conct., 10 m.	33/- 16/- 12/-
" " 30 m. ...	18/-	10/-	7/6	Parrish's Food, 30 m. ...	8/- 5/6 3/9
Chaulmoogra Oil, 3 m. ...	9/-	6/6	5/-	" " 60 m. ...	8/9 6/- 4/3
" 5 m. ...	10/6	8/6	6/6	Peruvian Mixture (2/- size) ...	16/- —
Colchicine Salicylate, $\frac{1}{250}$ gr. ...	15/6	9/-	6/9	" " (3/- ") ...	24/- —
Cinnamon and Quinine	22/-	10/9	7/6	Quinine, Ammoniated=30 m. Tinct. ...	14/- 6/- 5/-
Cod Liver Oil, 5 m. ...	7/6	5/6	4/8	" " =60 m. " ...	19/6 9/6 7/-
" " 10 m. ...	9/6	6/9	5/6	" Sulphate, 1 gr. ...	19/6 9/6 7/-
" " 15 m. ...	11/-	7/6	6/-	Santal Oil, 5 m. ...	33/- 16/- 11/6
" " 20 m. ...	14/6	9/-	7/-	" 8 m. (usually called 10 drops)	44/6 21/6 15/-
" " 30 m. ...	21/-	11/6	8/9	" 10 m. ...	54/6 27/6 18/-
" " 10 m. Creosote, 1 m. ...	14/-	8/9	6/6	" and Copaiba, 10 m. ...	33/- 16/- 11/6
Copaiba Balsam, 5 m. ...	7/9	5/9	4/-	" Copaiba and Cubebs, 10 m. ...	33/- 16/- 11/6
" " 10 m. ...	8/6	6/6	4/6	" Perles ...	33/- 16/- 11/6
Copaiba and Cubeb Oil, 10 m. ...	12/-	7/6	5/6	" and Cubebs, 5 m. ...	33/- 16/- 11/6
" " Iron, 10 m. ...	8/6	6/6	4/6	" Cubeb and Buchu, 5 m. ...	33/- 16/- 11/6
" " Matico, 10 m. ...	9/6	6/9	5/6	" and Matico, 5 m. ...	33/- 16/- 11/6
" " Santal, 10 m. ...	33/-	16/-	11/6	" Oil Compound, 10 m. ...	33/- 16/- 11/6
" Cubeb and Buchu, 10 m. ...	10/6	7/-	5/9	" and Salol, 10 m. ...	54/6 27/6 18/-
" " and Iron, 10 m. ...	9/6	6/9	5/6	" " Kaya Kaya ...	54/6 27/6 18/-
" " and Matico 10 m. ...	10/6	7/-	5/9	" Copaiba Salol, Methylene Blue and Cinnamon, 10 m.	54/6 27/6 18/-
" " and Santal, 10 m. ...	33/-	16/-	11/6	Terebene, 5 m. ...	7/- 5/6 4/-
Copaiba Oil, 5 m. ...	9/6	6/6	5/-	" 10 m. ...	10/- 7/3 5/6
" 10 m. ...	14/-	8/9	6/6	Turpentine, 5 m. ...	7/- 5/6 4/-
Creosote, 1 m. (in oil) ...	10/-	7/-	5/6	" 10 m. ...	8/- 5/9 4/6
" 2 m. (") ...	15/6	9/-	7/-	Weight-Reducing Capsules—	
" 3 m. (") ...	21/-	12/-	8/9	Ext. Fuci Vesic., 3 gr.)	21/- 12/6 8/6
" 5 m. (") ...	30/-	16/-	11/6	Ext. Gentianæ, 2 gr.)	19/6 9/6 7/3
				Wintergreen Oil, 5 m. ...	

When ordering through your wholesale house specify "Denoual's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.

J. D. CAPSULES on the P.A.T.A.



DENOVAL'S AMMONIATED QUININE CAPSULES.

In decorated tins 7/- per doz. Minimum retail, 1/- per box.



DENOVAL'S PERUVIAN MIXTURE CAPSULES (Stamped).

2/- size, 16/- per doz. 3/- size, 24/- per doz.



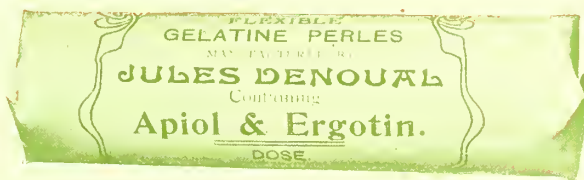
DENOVAL'S COPAIBA CAPSULES, No. 0.

6/6 per doz. Minimum retail 1/- per box.



DENOVAL'S BLOOD-FORMING CAPSULES.

6/6 per doz. Minimum retail, 1/- per box.



DENOVAL'S APIOL AND ERGOTIN PERLES.

22/- per doz. Minimum retail, 3/- per bottle.



J. D. SANTAL PERLES.

In bottles of 36. Six minims of English-drawn Oil of Santal Wood in each Perle. 18/- per doz. bottles. Minimum retail 2/6



J. D. SOLUBLE QUININE PESSARIES (Wedge Shape).

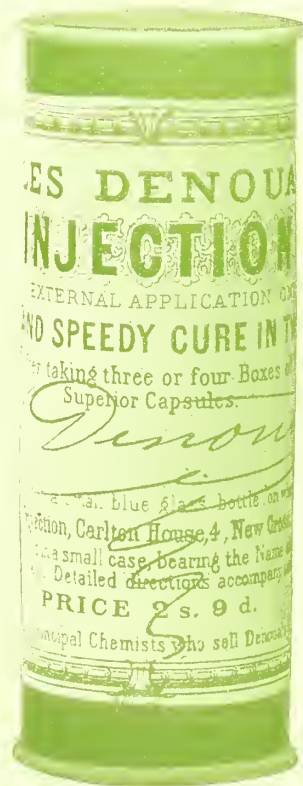
Pure Cacao Butter Base, containing 3 grains Soluble Quinine in each. 8/6 per doz. boxes. Retail price, 1/9 per box.

JULES DENOVAL'S INJECTION.

(Stamped)

22/- per doz.

Minimum retail, 2/9 per bottle.



When ordering through your wholesale house specify "Denoval's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.**MEDICATED LOZENGES, Etc.**

	Per lb.		Per lb.		Per lb.
Aniseed	1/6	Eucalyptus Oil	2/2	Santonine B.P.	12/-
Antacid, Dr. Roberts	2/-	" and Menthol	2/2	Sedative T.H.	2/3
Aperient	2/6	Eucalyptus Gum B.P.	3/-	Soda and Bismuth	1/9
Aromatic	2/6	Formalin	2/6	" Mint	1/9
Aconite T.H.	2/-	" and Cinnamon	2/6	" and Ginger	1/9
Ammon Chlor. T.H.	2/-	" Tablets	2/6	Sponge	3/-
Balsamic Cough	1/9	Gelatine	1/9	Sulphur B.P.	1/8
Bath Pipe	1/6	Guaiacum B.P.	3/-	Sulphur, Garrod (1 cwt. 108/-)	1/-
Benzoic Acid B.P.	3/-	" T.H.	2/6	" Tablets (1 cwt. 80/-)	9d.
Bismuth B.P.	2/6	Ginger, Super	1/8	" and Lime Juice	9d.
" and Charcoal	2/6	" Extra Strong	2/-	" and Sarsaparilla	9d.
" and Soda	1/9	Horehound	1/8	Tannin B.P.	2/2
Bismuthated Tablets	2/-	Indigestion Tablets	2/6	" T.H.	2/-
Borax T.H.	2/-	Ipecac B.P.	1/9	Terebene	2/-
Black Currant No. 1	2/-	Iron, Reduced, B.P.	2/-	Throat	1/9
" No. 2	1/9	Lavender	1/8	Tolu	1/9
" and Tannin	2/-	Logwood T.H.	2/3	Voice	1/9
" Cayenne and Tannin	2/-	Lettuce T.H.	2/3	Worm	2/6
Brompton Hospital Cough J. D. & Co.	2/-	Lime Juice and Sulphur	9d.	" Cakes, Chocolate	3/-
" " No. 1	1/8	(1 cwt. 80/-)			
" " No. 2	1/6	Linseed, Licorice and Chlorodyne	1/-		
" " Stamped	1/2	(1 cwt. 104/-)			
Bronchial	2/-	Magnesia	1/8		
Calomel ½ gr.	2/-	" and Peppermint	1/8		
" 1 gr.	2/3	Morphia B.P.	2/6		
" 2 gr.	2/10	" and Ipecac B.P.	2/6		
Camphor	2/-	Musk No. 1	2/-		
Carbolic Acid B.P.	2/-	" No. 2	1/9		
" T.H.	2/-	Opium	2/3		
Castor Oil	2/6	Paregoric	1/8		
Catechu T.H.	2/6	Pot Chlor. B.P.	1/6		
" B.P.	3/-	" and Borax T.H.	1/9		
Cayenne	1/8	Pot Citrate T.H.	2/3		
Charcoal	1/8	Peppermint, Bijou	3/-		
" and Bismuth	2/6	" Curiously Strong			
Chlorodyne 1 m.	2/2	" J. D. & Co.	2/9		
" 2 m.	2/4	C.S. No. 1	2/-		
Cinnamon	1/9	C.S. No. 2	1/9		
" and Formalin	2/6	Extra	1/9		
Clove	1/6	Strong 1/- size	1/2		
Cocaine ¼ th gr.	3/-	" 6d. size	1/-		
Coltsfoot Rock	1/6	Pine Oil	1/4		
Cough A.	2/-	" Tree J. D. & Co.	1/6		
" B.	1/8	Pontefract Cakes	1/9		
" C.	1/6	Red Gum B.P.	3/-		
" Waters	3/-	" J. D. & Co.	1/9		
" Childs Own	1/4	Rose No. 1	2/-		
Digestive Tablets	1/9	" No. 2	1/9		
" Candy	1/9	Rhatany B.P.	3/-		
		" T.H.	3/-		
		" and Cocaine B.P.	3/3		

True Floral Cachous.

Aromatic		
Carnation		
Cherry Bloom		
Eau de Cologne		
Ess Bouquet		
Frangipanni		
Heliotrope		
Hyacinth		
Jasmine		
Jockey Club		
Lavender		
Lilac		
Lily of Valley		
Millefleur		
Musk		
Opoponax		
Parma Violet		
Rose		
Stephanotis		
Sweet Pea		
Violet		
Wallflower		
White Heather		

Finest quality—Heart shape .. 2/6 per lb.
 Second quality—Diamond shape .. 2/- per lb.
 7 lbs. assorted .. 3d. per lb. less

Carlton Bouquet Smokers Cachous
 (Licorice base) 2/6 per lb.
 Silvered Cachous .. 3/- per lb.
 " in 1d. tubes, 7/- per gross

When ordering through your wholesale house specify "Denoual's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.

SOLE AGENTS FOR

CLAUDE RAYNAUD & CIE.,

GRASSE, FRANCE.

PERFUMES & ESSENTIAL OILS.

Quadruple Extracts. All Odours.

1 lb. bottles	...	...	11/-	per lb.
$\frac{1}{2}$ lb. "	...	...	11/6	"
$\frac{1}{4}$ lb. "	...	...	36/-	doz.
2 oz. "	...	...	21/-	"
1 oz. "	...	...	10/6	"

Triple Extracts.

1 lb. bottles	...	...	10/-	per lb.
$\frac{1}{2}$ lb. "	...	...	10/6	"

No. 15 Extract.

Special Oriental Blend	12/6	per lb.
------------------------	------	---------

Eau de Cologne. Three Star.

5 lb. bottles	...	...	7/-	per lb.
1 lb. "	...	...	7/6	"

Eau de Cologne. A Quality.

5 lb. bottles	...	...	6/-	per lb.
1 lb. "	...	...	6/6	"

Lavender Water. Old Blended.

5 lb. bottles	...	...	7/-	per lb.
1 lb. "	...	...	7/6	"

Lavender Water. A Quality.

5 lb. bottles	...	...	6/-	per lb.
1 lb. "	...	...	6/6	"

Eau de Cologne.

4 oz. bottles	...	...	21/-	per doz.
2 oz. "	...	...	11/-	"
1 oz. "	...	...	6/6	"

Mineral Oil. Violette No. 48 for Brilliantines 10/- lb.

Concentrated Spiritless Perfumes.

Heliotrope	...	...	Per oz. 5/-
Jasmine	...	...	
Carnation	...	...	
Lily of Valley	...	...	
Night Scented Stock	...	...	
Wallflower	...	...	
Sweet Pea	...	...	
Parma Violet	...	...	

**THE TASMANIAN
EUCALYPTUS OIL Co., LTD.**

DISTILLERS & PROPRIETORS OF

PLATYPUS BRAND

**GLOBULUS
EUCALYPTUS
OIL.**



In Bulk

3/-

Per lb.

Bottled and packed in elegant cartons.
(On the P.A.T.A.)

4d. size	...	...	2/7	per doz.
6d. "	...	...	4/-	"
1 "	...	...	8	"
2 6 "	...	...	22/	"

PLATYPUS BRAND

Eucalyptus Inhalers.

Six on a card	...	...	3/8	per doz.
---------------	-----	-----	-----	----------

Eucalyptus Ointment.

Made from the fresh green leaves. A wonderful
healer of wounds and open sores.

2/- per lb.

2 oz. glass pots to retail at 1/3, 9/- per doz.

Tasmanian

Eucalyptus & Menthol Tablets.

In cartons to retail at 1d. each, 8/- per gross

When ordering through your wholesale house specify "Denoual's."

JULES DENOVAL & CO., Carlton Works, Asylum Road, LONDON, S.E.

Compressed Tablets.

COMPRESSED TABLETS.		Per Doz. Bottles each			Per 1,000
		25	50	100	
Acetyl Salicylic Acid ...	...	15/-	29/-	56/6	45/-
Cascara 2 gr. ...	...	2/3	3/6	5/9	3/6
„ 3 gr. ...	...	2/8	4/4	7/4	4/9
„ 5 gr. ...	...	3/5	5/9	10/6	7/3
Easton's Syrup $\frac{1}{2}$ dr. ...	...	4/3	7/6	13/6	9/8
„ „ 1 dr. ...	...	5/9	10/6	19/6	15/6
Grey Powder $\frac{1}{4}$ or $\frac{1}{2}$ gr. ...	...	1/9	2/6	3/3	1/6
„ „ 1 gr. ...	...	1/9	2/6	3/6	2/-
„ „ 2 gr. ...	...	2/-	3/-	4/-	3/-
Pepsin 2 gr. ...	...	3/7	6/2	11/-	7/10
Phenacetin 5 gr. ...	...	28/6	55/6	109/6	90/-
„ and Caffeine (4 gr. & 1 gr.)	...	25/6	49/6	97/6	80/-
„ „ „ Cit. „ „	...	25/-	48/6	95/6	78/-
Quinine Ammon 1 dr. ...	...	5/9	10/6	19/6	15/6
„ Sulph. 1 gr. ...	...	5/-	9/-	16/9	12/8
„ „ 2 gr. ...	...	8/-	15/-	28/6	23/-
		Per Doz. Bottles each			
		100	200	500	
Saccharine $\frac{1}{2}$ gr. in 1 ...	..	11/8	21/3	50/-	

Chlorate of Potash Tablets. 5 gr.
per **3/-** lb.

Soda Mint Tablets. 5 gr.
per **1/-** lb.

Saccharine Tablets. ($\frac{1}{2}$ gr. in 1.)
per **56/-** lb.

Compressed Pine Tablets.
per **1/8** lb.
Decorated tins each 30 tablets
per **36** doz.

Garrods Sulphur Lozenges.
1 oz. decorated tins.
per **24/-** gross.

J. D. Cyclone Insect Exterminator.



(Genuine Dalmatian Insect Powder.)

ON THE P.A.T.A.

22/-
per gross.

Glycerine Suppositories B.P.

Packed in boxes each 12.

Infant's size ...	3/9	per doz. boxes
Children's size ...	4/3	" "
Adult's " ...	6/-	" "

Empty Pastille Tins.

Recessed lids - gold varnished.

4 oz. ...	24/-	per gross
2 oz. ...	12/-	" "
1 oz. ...	9/6	" "

Empty Capsule Tins.

Round, White enamelled.

per **10/6** gross.

J. D. Aseptic Paper Handkerchiefs.

Japanese Manufacture.

per **10/-** 1,000.



Brompton Chest & Lung Lozenges.

1 oz. decorated tins ...	24/-	per gross.
2 oz. " " ...	40/-	" "

When ordering through your wholesale house specify "Denoual's."

TETLOW'S "SWAN DOWN" FACE POWDER

HAS THE LARGEST SALE OF ANY FACE POWDER IN THE WORLD.

63/- per Gross.

Bonus of 2 dozen with each gross.

Minimum Retail Price

6½d. per Box.

P.A.T.A.

Profit **28/-** per Gross



In Five Tints :

White, Cream, Pink,
Flesh and Brunette.

Showcards,
Handbills, and other
Advertising Matter
on Application.

The WOMEN OF ENGLAND are waiting for "SWAN DOWN"—Do you realise this? Do you understand that by assisting to increase the sales of "SWAN DOWN" you are teaching women to practise WAR ECONOMY, because "SWAN DOWN" is the MOST EFFECTIVE Face Powder existing, and by its adhesive qualities the most ECONOMICAL, therefore, by reason of its price the CHEAPEST; at the same time, being UNRIVALLED in QUALITY, it is consequently the BEST. Never forget—every new customer you make for "Swan Down" is a permanent one—the sales of "Swan Down" are increasing every month, and if your individual sale is not showing an increase you are not getting your fair share of business.

WE WANT EVERY CHEMIST TO MAKE A WINDOW SHOW IN AUGUST

Write for special terms.

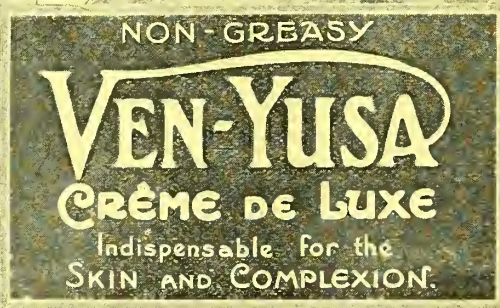
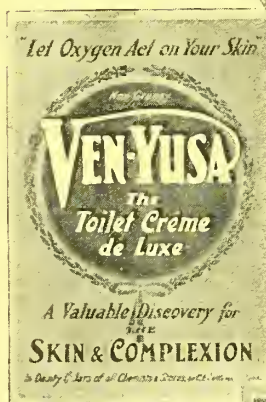




DAINTY

VEN-YUSA

SHOWCARDS.



ATTRACTIVE NEWSPAPER ADVERTISEMENTS.



HUGE ADVERTISING. ENORMOUS SALES. SPECIAL WINDOW SHOW OFFER

		An Order Value
* YOU purchase at Gross Prices, <i>i.e.</i> , 3 doz. Ven-Yusa Cream @ 9/3, and 1½ doz. Ven-Yusa Soap @ 3/1		£1 12 5
WE allow you for Showing Cards		0 3 9
		£1 8 8
IF CASH ENCLOSED deduct 2½ per cent. (otherwise nett)... ..		9
	Nett amount to send	£1 7 11

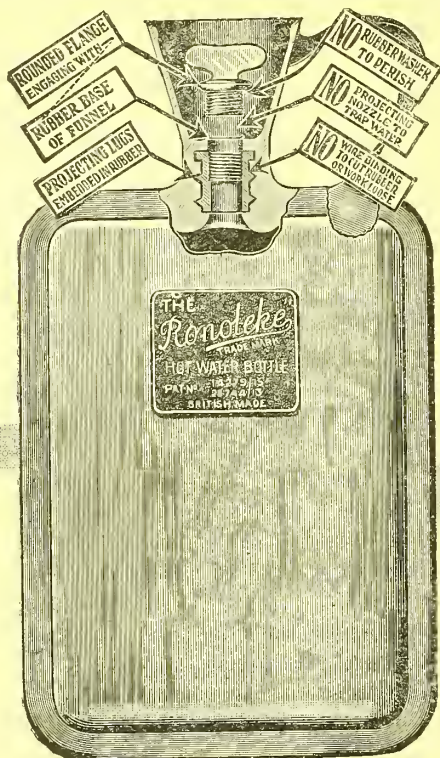
Your Profit on the Investment will be 50%

ORDERS for ONE WINDOW SHOW
accepted up to 4 times above amount only.

* Order can be taken in Ven-Yusa Cream only (3½ doz.), or assorted as desired between Cream and Ven-Yusa Soap.

C. E. FULFORD, LTD., Carlton Hill, LEEDS.

Or { Messrs. T. McMULLAN & CO., Victoria Street, BELFAST.
" MAY, ROBERTS & CO., Ltd., Westmoreland Street, DUBLIN.



The "RONOLEKE" Hot Water Bottle.

POINTS d'APPUI.

There are six points where the **RONOLEKE** has definitely established a marked superiority over all other India-rubber Hot Water Bottles; they are vital points.

All the trouble with the old pattern bottle has arisen through faulty necks: Stopper needing new washer—Socket working loose—Wire binding cutting rubber—Water bubbling up and scalding, etc.

In the **RONOLEKE** all these defects have been triumphantly obviated; that is why the

RONOLEKE cannot LEAK.

To prove our faith in the **RONOLEKE** we are issuing to the public copies of the sectional diagrams shown opposite, with a letter asking them to call on you and see the bottle itself.

We are certain there is going to be a big demand for the **RONOLEKE**; it's up to you to get your share of the business.

For further full particulars and prices write us.

The RONOLEKE Co.,
Upper Colham Mills,
UXBRIDGE.

"RONOLEKE"

is pronounced

RO-NO-LEAK

Rounded FLANGE
of screw top
engaging with...

ON ACCOUNT OF THIS
ONE FEATURE ALONE
THE "RONOLEKE" WILL
OUTLAST THREE ORDINARY
HOT WATER BOTTLES

ROWE'S PATENT

Rubber FLANGE
at base of funnel
This $\frac{3}{16}$ inch
flange of built-
up rubber acts
as a washer, but
is far more durable.

Wide METAL FLANGE
of socket embedded in
built-up rubber.

Aperture at base of
funnel.

This makes the
funnel a real funnel,
not a place to collect
water spilt when
filling.

Projecting LUGS of
patent socket embedded
in built-up rubber, prevent-
ing the socket from revolving
when tightening up
or removing screw top.

Built-up RUBBER firmly
joined to body of bottle,
so that not a particle of
water can leak through.
It holds socket securely
in position without wiring

The RONOLEKE Way.

The OLD STYLE Way.

Loose rubber
WASHER
($\frac{1}{16}$ th inch thick)
which quickly
perishes or is
ground away
by friction.

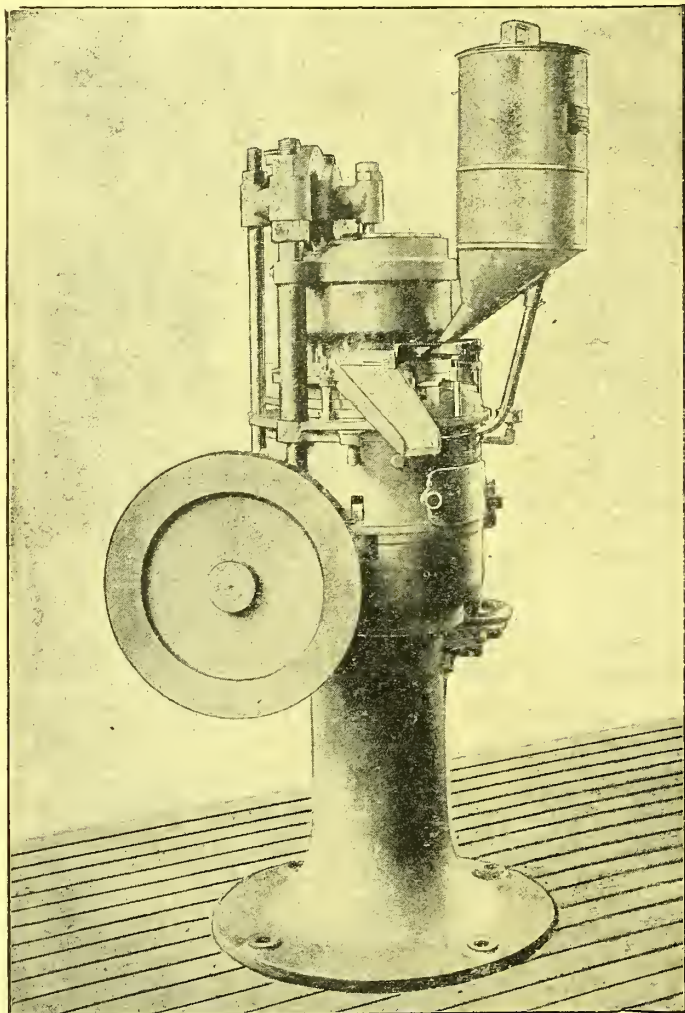
SOCKET projecting
into the funnel thus
making the latter
useless for filling
purposes. It merely
collects water spilt
whilst filling.

WIRE binding metal socket to
rubber - apt to break, work loose, or
cut rubber, thus causing leakage

Base of SOCKET, showing absence of supporting rubber cushion.
Being kept in position solely by the wire binding, the socket is
liable to become detached from the rubber tube, thus allowing
water to percolate between the metal and the rubber.

Tablet Machinery.

No. 1 ROTARY MACHINE.



*The Machine for heavy pressure and long-continued hard service.
Output, 700 Tablets per minute.*

TABLET MACHINES

In eight sizes and of different types suitable for all classes of work, from Tablets of 2 in. diameter to Hypodermics; also for Cubes, Octagons, Ovals, or any other shape.

SPECIAL PLANT AND OPERATORS

For supplying Punches and Dies for any make of Machine. Orders for these can generally be supplied in one or two days.

*OLD MACHINES REPAIRED OR
ALTERED FOR MORE MODERN
REQUIREMENTS.*

THE MACHINE USED BY THE WAR OFFICE CONTRACTORS.

Ointment Mills, Gelatine Pill-Coaters (Vacuum Process),
Gelatine Capsule Machinery for Machine and Hand-made
Capsules, Automatic Percolating & Distilling Plants, &c. &c.

S. W. WILKINSON & CO.,

SEND FOR CATALOGUE.

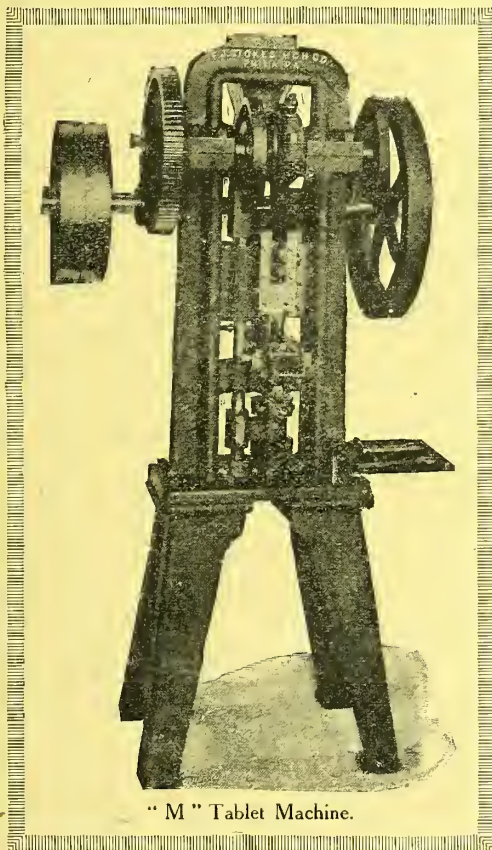
===== PHARMACEUTICAL ENGINEERS, =====
LITTLE HOLME STREET, LEICESTER.

TABLET MACHINES

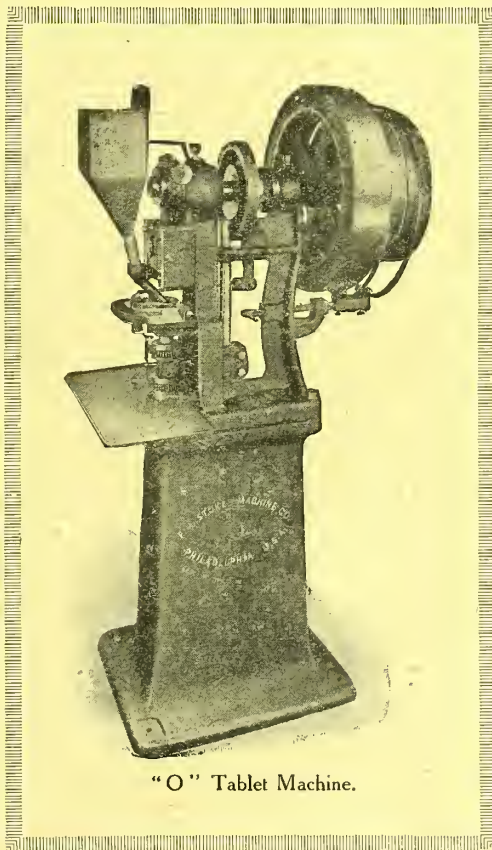
IN STOCK.

We have actually in stock, ready for immediate delivery, machines for compressing Tablets any size up to 2 inches in diameter.

SEND A POSTCARD FOR CATALOGUE.



"M" Tablet Machine.



"O" Tablet Machine.

IF YOU ARE REQUIRING ANY

Pharmaceutical Machinery

WRITE TO US

THOMPSON & CAPPER, Ltd.

Sole Agents for F. J. Stokes Machine Co.,

Manesty Buildings, College Lane, LIVERPOOL.

Telephones : Royal 2060.

ESTABLISHED 1843.

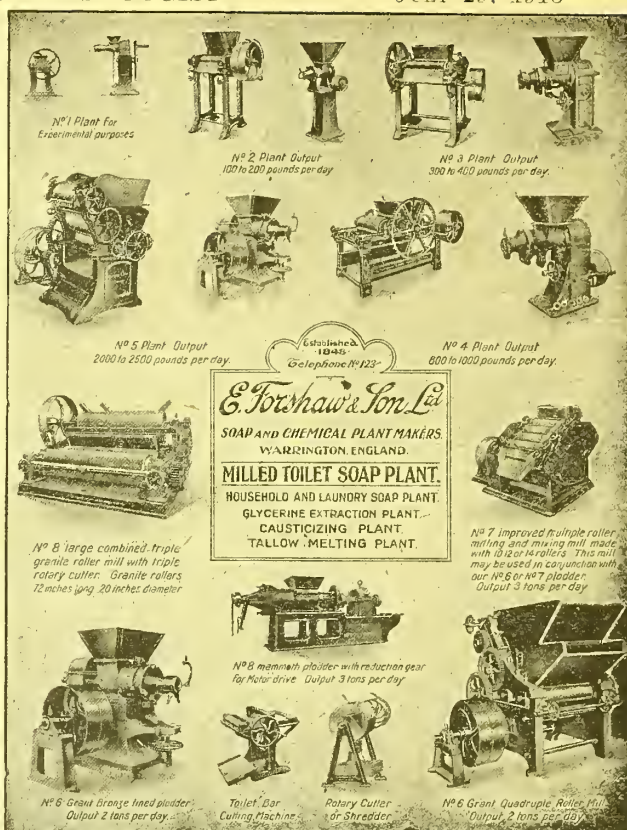
Telegrams : "Sanitas Liverpool."



ESTABLISHED 1848

E. FORSHAW & SON LTD TEL 123.
SOAP AND CHEMICAL PLANT MAKERS.
WARRINGTON, ENGLAND.

SOAP & CHEMICAL BOILING PANS
STEAM JACKETED PANS
MIXING PANS
EVAPORATORS, STILL AS
AND EVERY DESCRIPTION OF
SOAP AND CHEMICAL PLANT.



No 1 Plant for Experimental purposes

No 2 Plant Output 100 to 200 pounds per day

No 3 Plant Output 300 to 400 pounds per day

No 4 Plant Output 600 to 1000 pounds per day

No 5 Plant Output 2000 to 2500 pounds per day

ESTABLISHED 1848
Telephone No 123

E. Forshaw & Son Ltd
SOAP AND CHEMICAL PLANT MAKERS
WARRINGTON, ENGLAND.

MILLED TOILET SOAP PLANT.
HOUSEHOLD AND LAUNDRY SOAP PLANT.
GLYCERINE EXTRACTION PLANT.
CAUSTICIZING PLANT.
TALLOW MELTING PLANT.

No 6 large combined triple granite roller mill with triple rotary cutter. Granite rollers 12 inches long 20 inches diameter

No 7 Improved triple roller mulling and mixing mill made with 18 or 24 rollers. This mill may be used in conjunction with our No 6 or No 7 plodder. Output 3 tons per day

No 8 mammoth plodder with reduction gear for motor drive. Output 3 tons per day

No 9 Grant Bronze lined plodder. Output 2 tons per day

Toilet Bar Curing Machine

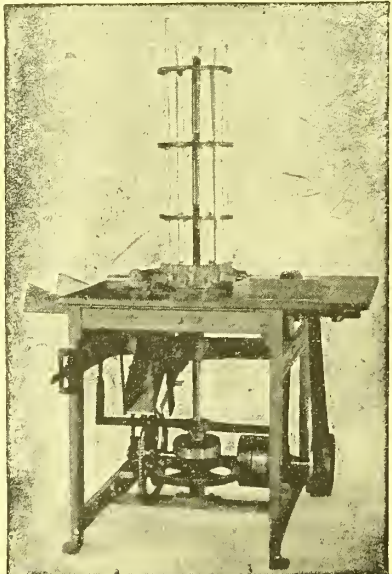
Rotary Cutter or Shredder

No 6 Grant Quadruple Roller Mill. Output 2 tons per day

SURGICAL BANDAGE MACHINERY

Complete Plant for Making Bandages.
CLOTH ROLLING & MEASURING MACHINE
BANDAGE PAPERING MACHINE.
BANDAGE CUTTING MACHINE.

BANDAGE CUTTING MACHINE



CUTS 66 BANDAGES PER MINUTE

Prices and Particulars on application to Patentees & Manufacturers
THOMSON-KNOX COMPANY 8-12 Maxwell Street, GLASGOW.

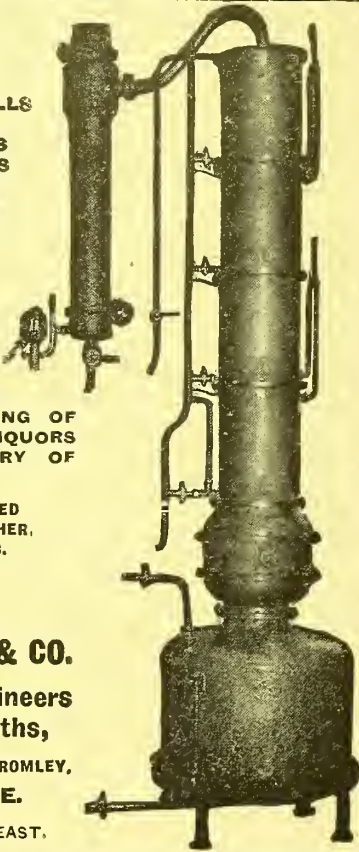
COPPER

VACUUM STILL
DIGESTERS
JACKET PANS
PERCOLATORS
CONDENSERS
EMULSIFIERS
ETC. ETC.

PATENT STILL

FOR THE
STRENGTHENING OF
ALCOHOLIC LIQUORS
AND RECOVERY OF
SOLVENTS.

HIGHLY RECOMMENDED
FOR ACETONE, ETHER,
PETROL, ETC. ETC.



JOHN DORE & CO.
Distillers' Engineers
& Coppersmiths,
28-30 HIGH STREET, BROMLEY,
LONDON, E.
Telephone: 136 EAST.

A FEW of the MANY PATTERNS of GARDNER'S PATENT "RAPID" SIFTERS & MIXERS.

Used for everything "SIFTABLE" or everything "MIXABLE."

STANDARD PATTERN combined Machines (Figs. 1 to 4) will at one operation thoroughly Sift and Mix all Dry Powders, and reduce to powder and sift any that contain lumps. Largely used for **Drugs, Chemicals, Acids, Baking Powder, Self-raising Flour, Cattle Foods, Sugar, Colours, Sherbet, Coffee, Flour-blending, Disinfectants**, and all kinds of Medicated Powders. Also for the preparation of High Explosives.

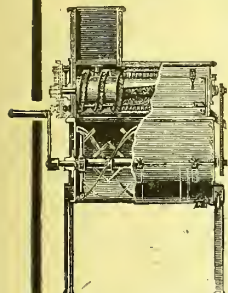


Fig. 1.
Sizes for Hand Use.

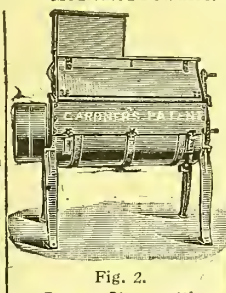


Fig. 2.
Power Sizer with Pulleys.

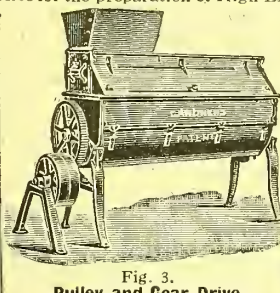


Fig. 3.
Pulley and Gear Drive.
The type recommended for Power users.

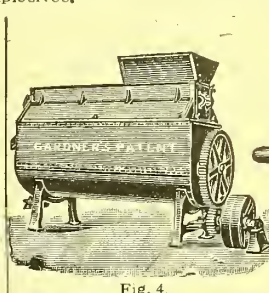


Fig. 4.
Large Capacity Power-driven Machines.

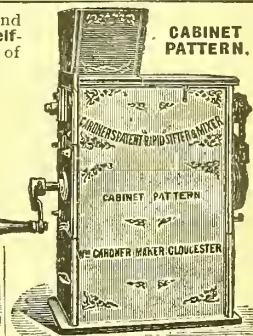
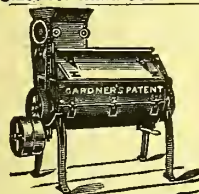


Fig. 5.
For Counter use and small quantities.



GARDNER'S Patent "RAPID" SIFTER, MIXER, AND CRUSHER.

Fig. 6.

For breaking down large and hard lumps in Sugar, Acids, Chicory, Salt, Colours, Soda, small enough to be reduced, sifted, and mixed afterwards.



GARDNER'S Patent "RAPID" SIFTER, MIXER, AND ESSENCE SPRAYER.

Fig. 7.

For adding Liquids, Essences, Flavourings, Liquid Colours, Oils, &c., to Sugar, Acids, Flour, Face Powders, Disinfectants, Seasonings, and many kinds of Powders and Crystals during Mixing.



Fig. 8.

Open Bottom Pattern.

GARDNER'S Patent "RAPID" SIFTERS (Figs. 8 to 12) (Power Sizes) sift any kind of Dry Powders, and reduce to powder any that may be lumpy, such as Tartaric Acid, Bicarbonate of Soda, Magnesla, Arrowroot, Sugar, Flour, Colours, Sheep Dip, &c.



Fig. 9.

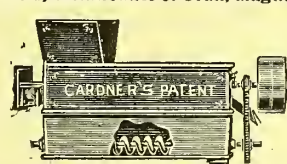


Fig. 10.

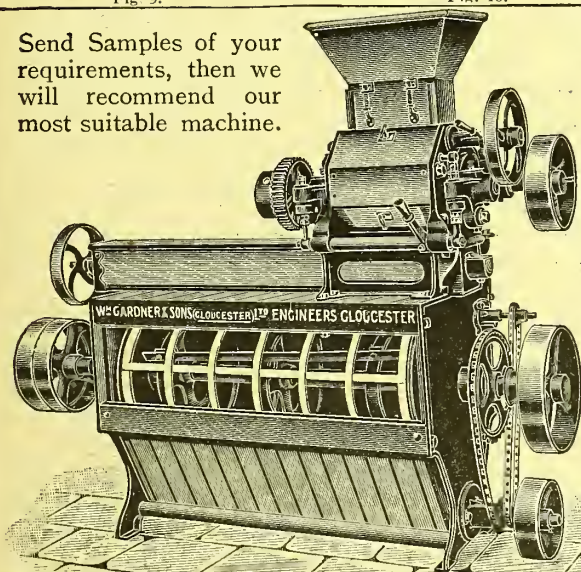


Fig. 11.



Fig. 12.

Send Samples of your requirements, then we will recommend our most suitable machine.



This is one form of

GARDNER'S PATENT GRINDING AND DRESSING MACHINE.

For Sugars, Invalids' and Infants' Foods, Paint, Colours, Crystals, Drugs, &c.

We make these Mills for Sugar, capacity from $\frac{1}{2}$ cwt. per hour upwards, and any grades of Icing and Castor can be obtained at one operation.

WE ALSO MANUFACTURE

DISINTEGRATORS, DRUM SIEVES, SPICE STAMPERS, DECORTICATORS, FRICTION HOISTS, and various other types of machinery.

DRYING & SIFTING MACHINES for Explosives, Chemicals, &c.

ALSO STEAM BOILING PANS.

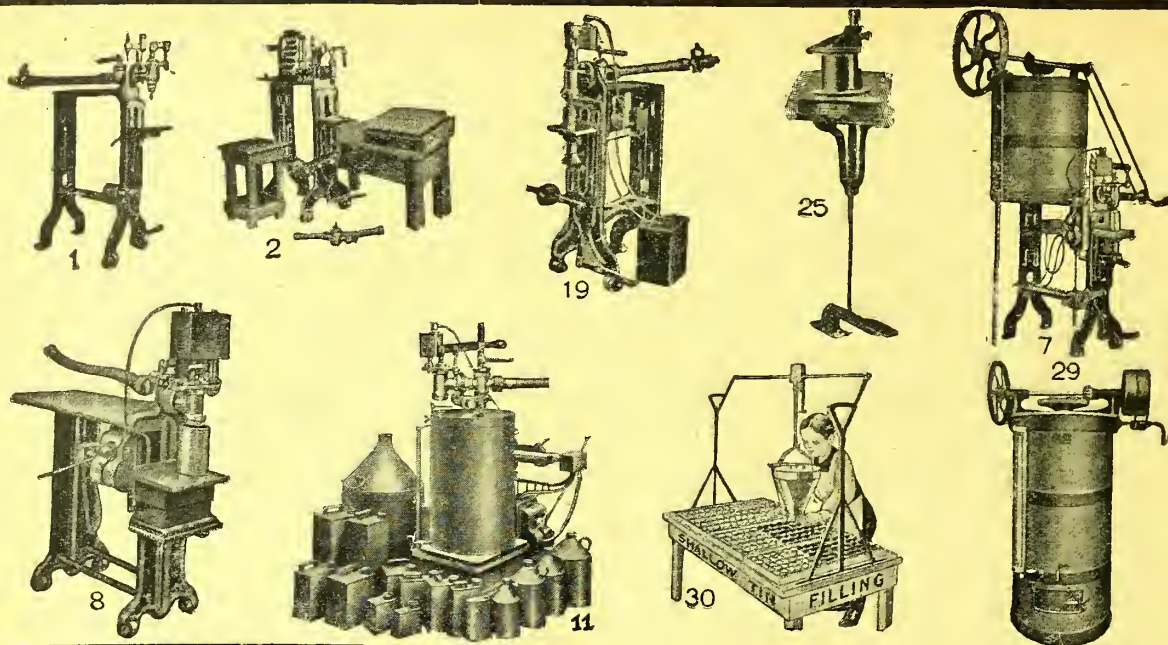
Write for complete No. 25 Catalogue to
WM. GARDNER & SONS (GLOUCESTER), LTD., ENGINEERS, GLOUCESTER.

Cables and Telegrams: "GARDNER GLOUCESTER."

Colonial Agent: Mr. J. L. LENNARD

Terranora Buildings, Reiby Lane, SYDNEY.
364 Little Collins Street, MELBOURNE.
8 Mercer Street, WELLINGTON, N.Z.

Telephone No. 117.



ROBERTS' PATENT FILLING MACHINE CO. ARE THE SOLE MAKERS OF THE WHITEHEAD PATENT AUTO LIQUID SAMPLER

THE ROBERTS' PATENT POWDER AND CEREAL SAMPLER

THE ROBERTS' PATENT "COLORATOR" FOR STANDARDISING TEST SAMPLES OF FLOUR AND OTHER PRODUCTS

ROBERTS' PATENT AUTO CASK AND TANK WAGGON FILLERS FOR OIL, TAR, ETC.

ROBERTS' PATENT AUTO FILLERS FOR FLASKS, CANS, DRUMS, ETC. FOR OIL, VARNISH, PAINT, ENAMEL, CARBOLIC ACID, DISINFECTANTS, ETC.

ROBERTS' PATENT AUTO FILLERS FOR BAGS, CARTONS, PULP RECEPTACLES, TINS, ETC. FOR CREAM, CONDENSED MILK, LARD, FAT, GREASE, NUT BUTTER, EDIBLE OILS, ETC.

ROBERTS' PATENTS FOR FILLING INTO ALL KINDS OF RECEPTACLES, SEMI-LIQUID AND SOFT INERT SUBSTANCES, AS SOFT SOAP, ZOG ETC.

ROBERTS' PATENTS FOR THE RETAIL CHEMIST, FOR THE WHOLESALE CHEMIST, FOR THE SAUCE MANUFACTURER, FOR THE LIQUID METAL POLISH MANUFACTURER

FOR THE SHOE POLISH MANUFACTURER, FOR THE FRUIT CANNER, FOR THE OIL REFINER, FOR THE LARD REFINER, FOR THE SYRUP REFINER

FOR SHEEP DIP, GLYCERINE, CASTOR OIL, EMULSIONS

TIN LIDDING MACHINES, CORKING MACHINES, MIXERS, AGITATORS, EMULSIFIERS, SHOE POLISH PLANT, TINFILLERS

GAS HEATED, STEAM AND WATER JACKETED PANS, WAX MELTERS

ROBERTS' PATENT FILLING MACHINE CO. SPECIALISE IN LABOUR-SAVING MACHINERY

ROBERTS' PATENT FILLING MACHINES

for filling Bottles and Tins minimise labour shortage and increased costs.

Fill all Liquids—thick, thin, or containing sediment. Automatic agitation during filling.

Electrically operated. Automatic Filling Machines for Liquid Me al Polish, Cycle and Motor Oils, Paints, Varnishes, Soft Soap, Condensed M.lk, Syrups, Emulsions.

Send for Prices and Particulars. State requirements.

Mixing Plant, Jacketed Boilers, Wax Melters and Mixers, Electrically Heated Plant.

ROBERTS' PATENT FILLING MACHINE COMPANY,

33 ROUNDROFT STREET, BOLTON.

Telephone : Bolton 661.

Telegrams : "Filling Bolton."

BENNETT, SONS & SHEARS,

43 & 44 Shoe Lane, LONDON, E.C.

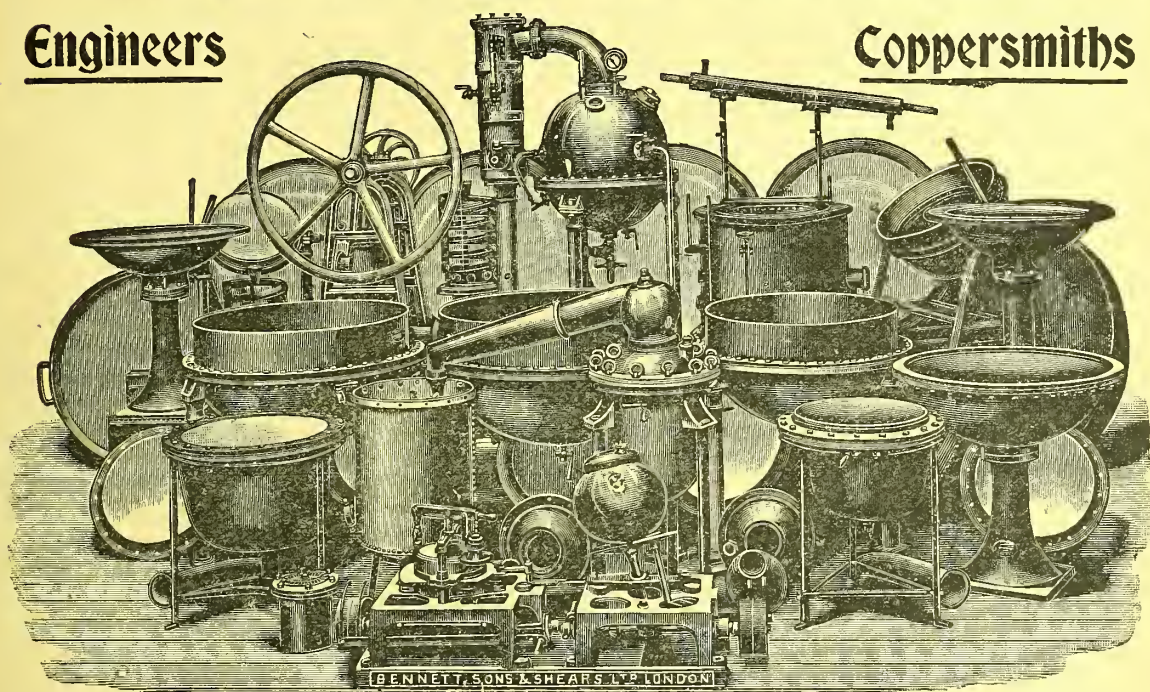
Ltd.

Works - - HAY MILLS, BIRMINGHAM.

**Makers of Plant for Manufacturers
of Crude and Fine Chemicals.**

Engineers

Coppersmiths



PATENTED SPECIALITIES.

**BENNETT'S PATENT "IDEAL" ANNULAR CONDENSER
BUCKLEY'S PATENT TABLET COMPRESSING MACHINERY
SHEARS' PATENT MULSER FOR PERFECTING EMULSIONS**

PLANT for making PURE Chemicals.

CATALOGUES SENT ON APPLICATION.

Finest Norwegian Medicinal Non - Freezing
COD LIVER OIL

(GUARANTEED NORWEGIAN)

WRITE FOR PRICES TO—

ISAAC SPENCER & CO. (Aberdeen) Ltd., ABERDEEN

WE CAN GIVE PROMPT DELIVERY.

The best value on the British Market.



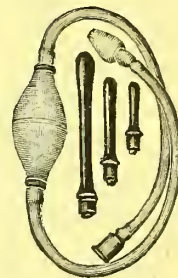
"ELLEMM" BRAND

WHIRLING SPRAYS, ENEMAS,
HOUSEHOLD RUBBER GOODS,
SEAMLESS RUBBER GOODS,

LEONARD MORRIS, 7 Brazenose St., MANCHESTER.

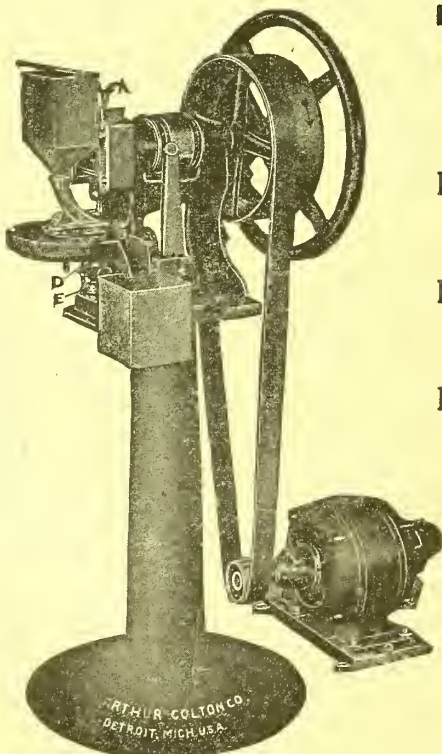
T.A. : "Ellemm Manchester."

T.N. : 1097 Central.



TABLET MACHINES

In stock, ready for immediate delivery.



No. 2B MACHINE for tablets $\frac{1}{8}$ in. to $\frac{1}{2}$ in. diameter,
including 3 sets of punches and dies.

(This machine has a capacity of 125 tablets per minute.)

No. 3B MACHINE for tablets $\frac{7}{32}$ in. to $\frac{5}{8}$ in. diameter,
including 3 sets of punches and dies.

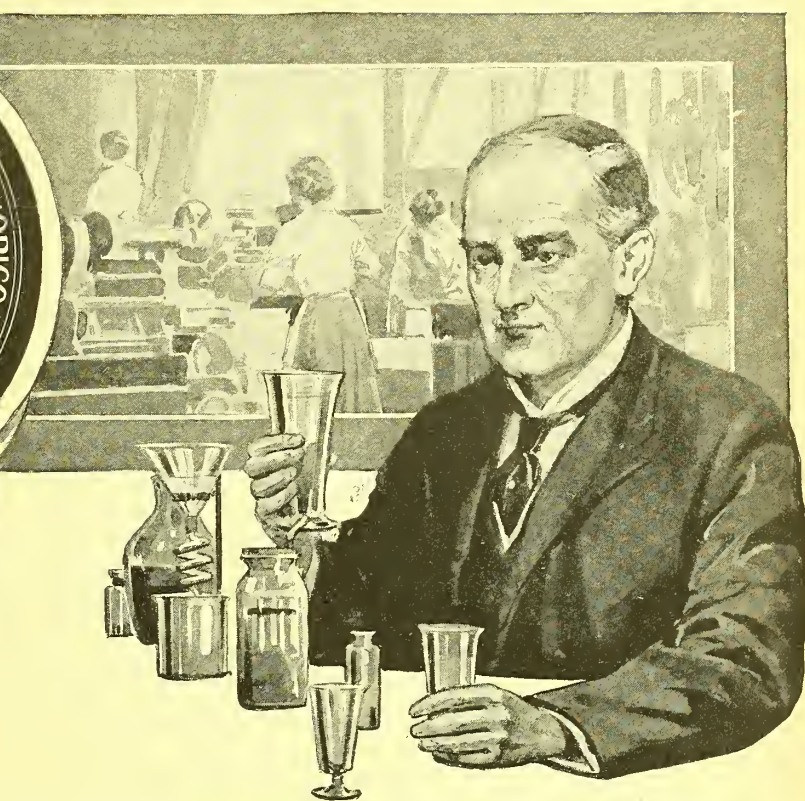
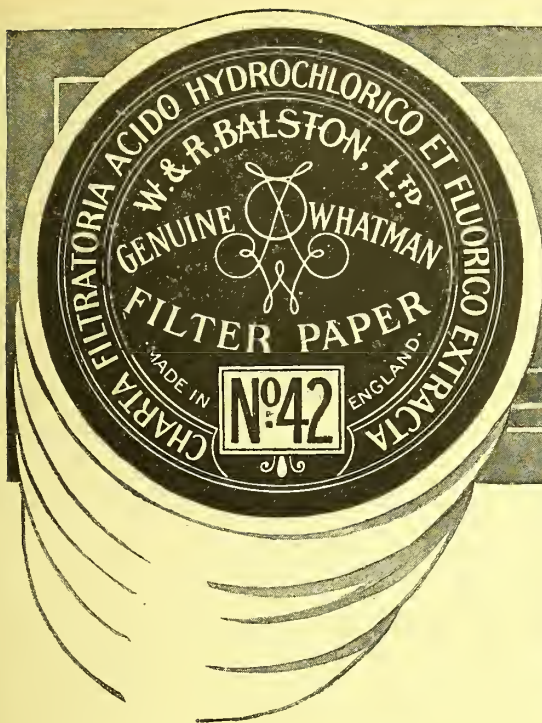
(This machine has a capacity of 100 tablets per minute.)

No. 4 MACHINE for tablets $\frac{1}{2}$ in. to $\frac{3}{4}$ in. diameter,
including 1 set of punches and die.

A massive machine of great power. (Capacity 90 tablets per minute.)

**Complete Pill Making Plants.
Gelatine Coaters.
Collapsible Tube Filling and
Closing Machines.**

JOHN J. GRIFFIN & SONS, LTD.,
Kingsway, London, W.C.



Why Wisdom Welcomes WHATMAN

With filter paper, as with many other things, the *little extra* in quality may make all the difference 'twixt failure and success.

Wisdom welcomes Whatman's because you can invariably rely on its behaviour: it will not "let you down": the crucial and delicate test may be carried through shorn of the unnecessary added anxiety which must come from using unreliable "tools": a Whatman Filter Paper does all that filter paper can do to ensure your experiment's success.

Nos. 43 & 50—Folded Filters and Fat Extraction Thimbles will be out shortly.

Choose, for all general filter purposes, one or more of the ORDINARY GRADES WHATMAN Nos. 1-5.

There are at present *Four* Acid Extracted Grades (practically ashless); two more, Nos. 43 & 44, are in preparation.

No. 1 For general quantitative and qualitative work. Retains Barium Sulphate.

No. 2 Similar to No. 1 but slightly heavier. Rapidly filters fine precipitates. Leaves clear, bright filtrate.

No. 3 A still heavier paper adapted to pressure and vacuum filtration. Filters fairly fast, yet retains fine precipitates.

No. 4 Very soft, open in texture. Rapidly and perfectly filters fruit juices, syrups, oils, varnishes, &c.

No. 42 A new grade, resembling Nos. 40 & 41 in chemical qualities but differing in its physical properties, being much harder and extremely close in texture. Suitable for use in filter pumps.

No. 5 A specially hardened paper of great purity. Very strong; retains finest precipitates.

No. 30 Hydrochloric acid treated. Low ash, close texture. For quantitative work.

No. 40 A paper treated by both Hydrochloric and Hydrofluoric Acids. Has less ash than No. 30. For very accurate quantitative work. Retains finest precipitates.

No. 41 Treated same as No. 40 but more open and filters more quickly. Not recommended for filtering very fine precipitates unless properly precipitated.

WHATMAN

High Grade FILTER PAPERS

In the event of difficulty in obtaining supplies or free samples, write to Sole Representatives:

H. REEVE ANGEL & CO., 15 NEW BRIDGE ST., LONDON, E.C.

1887—1916

MEASURE

FOR MEASURE

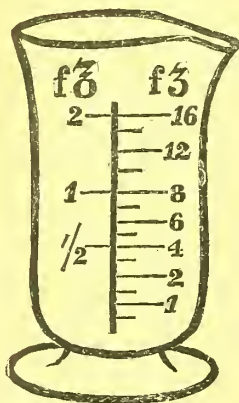
THE BEST are those made by

HENRY W. BUSH & CO., Ltd.

CLEAR DEMI-CRYSTAL.

ACCURATELY GRADUATED.

ALL SIZES AND SHAPES.

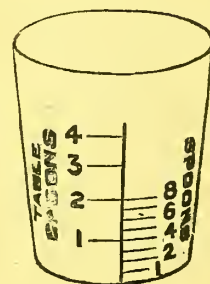


CYLINDRICAL (CUP). CONICAL.
 TONBRIDGE. WINES.
 METRIC. SHIP'S MEASURES.

TUMBLERS.

"SANDBLAST,"

HAND-ENGRAVED, &c. &c.



WHOLESALE and EXPORT ONLY.

PRICES ON APPLICATION.

HENRY W. BUSH & CO., Ltd.

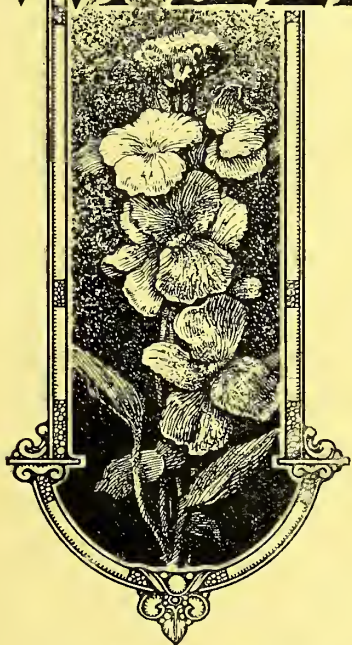
REMBRANDT WORKS,

COMMERCIAL STREET, LONDON, E.



WALLFLOWER

A "Distol" of old-world Charm



A Wallflower perfume such as will do credit to your Pharmacy can be made in an instant without blending, tinting or filtration at a minimum of cost by simply mixing "Distol" Wallflower with S.V.R. and a small proportion of water

If you would like to see the exact result obtainable under ordinary commercial conditions, send for a sample case of perfumes made from "Distol" Wallflower and any other five odours in our list of 33 varieties.

The above advertisement is adapted from one of the many showcards supplied free to users of "Distol" Ottos.

THOMAS KERFOOT & CO.,
BARDSLEY VALE, LANCASHIRE,
& Bardsley House, London, England.
ESTABLISHED 1767.

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BEST BRITISH MAKE.

THE "VĒVAX" Crêpe Bandage

Recommended for Varicose Veins, Rheumatic Gout,
Diseases of the Joints, Swelling of the Legs.



Sizes
2 $\frac{1}{2}$ IN 2 $\frac{1}{2}$ IN 3 IN
3 $\frac{1}{2}$ IN 4 IN
Wide.



ALLOWS FREE
CIRCULATION.

SELF CLINGING.
LIGHT & SOFT
IN TEXTURE.

A PERFECT SUBSTITUTE FOR RUBBER OR ELASTIC WEBBING
FOR ALL BINDING PURPOSES

Wholesale only, R.J.R. 69, Carter Lane, London, E.C.

FACSIMILE OF OUR NEW SHOWCARD
FOR

"VĒVAX" ORDINARY CRÊPE BANDAGES

PRICES.

Width ...	2 in.	2 $\frac{1}{2}$ in.	3 in.	3 $\frac{1}{2}$ in.	4 in.
"Vēvax" Ordinary ...	11/6	13/9	16/6	18/6	21/- per doz.

Approx. 70 % Pure Wool. (Single Green Line)

"Vēvax" Ordinary measures about six yards when fully stretched.

"Aseptus" Crêpe	8/-	10/3	12/6	14/-	16/6 per doz.
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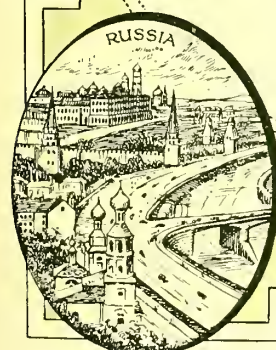
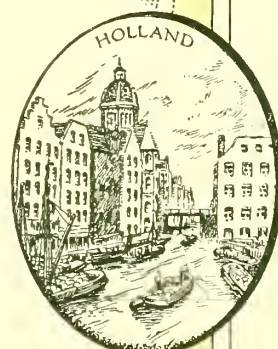
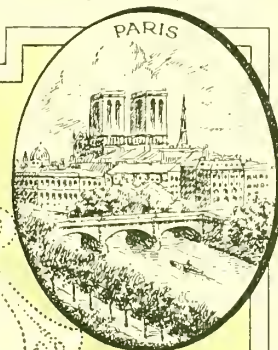
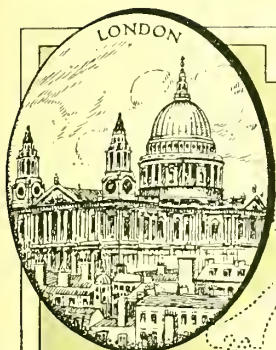
Approx. 33 % Pure Wool.

Other widths to order only. Usual discount.

On six dozen of a kind assorted we print Customer's Name and Address.

SOLE WHOLESALE DEPOT—

R. J. REUTER, 69 CARTER LANE, LONDON, E.C.



Pharmaceutical and Photographic Products

R. W. GREEFF & Co. offer at lowest prices the following products manufactured in the United Kingdom, Allied and Neutral Countries

(WHOLESALE QUANTITIES ONLY)

Acetanilid	Glycerophosphates	Phenacetin
Amidopyrin	Guaiacol Carbonate	Phenazone
Barbitone	Heliotropin	Pyrogallie Acid
Bromide of Ammonium	Hexamine	Potassium Sulpho-
Bromide of Potassium	Homatropine	Guaiacolate
Bromide of Sodium	Hydroquinone	Quinine and Salts
Chloral Hydrate	Isarol (best Ichthyol	Quinine Ethyl Car-
Cinchonine Sulphate	substitute)	bonate
and Muriate	Lithia Carbonate	Salicylate of Soda
Cinchonidine Sulphate	Lithol (Ichthyol	Salol
Citric Acid	substitute)	Sugar of Milk
Cocain Hydrochlor	Mercurials	Tannic Acid
and Puriss	Methylene Blue Med-	Tannin Albuminate
Cream of Tartar	icinal	Terpineol
Creosote Carbonate	Methyl Salicylate	Terpine Hydrate
Eucalyptus Oil—	Peppermint Oil	Theobromine
B.P. 70%	Pepsines, Pancreatin,	Thymol Crystals
Formaldehyde	Peptone and other	Vanillin
Gallic Acid	digestive Ferments	

R. W. Greeff & Co.

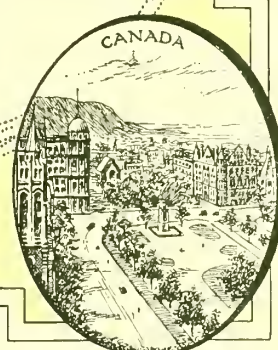
THAMES HOUSE, QUEEN ST. PLACE,
LONDON, E.C.

MANCHESTER BRANCH:

Lloyds Bank Buildings,
King Street.

Also at NEW YORK

R. W. Greeff & Co.,
80, Maiden Lane.





THE CHEMIST & DRUGGIST SUPPLEMENT.

OFFICE: 42 CANNON STREET, E.C.

SATURDAY, JULY 29, 1916

This Supplement is inserted in every number of "The Chemist and Druggist."

CHEMISTS' TRANSFERS

Messrs. ORRIDGE & CO., 56 Ludgate Hill, E.C.
Telephone Number: City 2283.

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

1.—KENSINGTON (Death Vacancy).—Retail and Dispensing Business; returns £1,000; gross profit £500, present rate less; well-appointed shop, with residence; widow will consider any reasonable offer.

2.—NORTHERN SUBURB.—Middle-class Retail, chiefly ready money; returns average between £1,050 and £1,100; net profit £450; price about £600; full inspection invited.

3.—SOUTH KENSINGTON.—Established Business, Retail and Dispensing; held by vendor many years; returns £1,000 yearly; profits above the average of retail trade; capital opening for modern trading; terms, value of stock and fixtures.

4.—BRIXTON.—By order of the Trustee, well-established Business, Retail and Dispensing; returns, present rate, £16 weekly; this sum could be materially increased under energetic management; to effect a speedy transfer no reasonable offer will be refused.

5.—OXFORD STREET (Near) (Death Vacancy).—Good-class Business; no immediate opposition; returns £1,000 yearly; net profit £500; modern, well-fitted shop; price £750.

6.—LONDON, N.W. (Within Easy Distance of West End).—Retail and Dispensing; very profitable middle-class Business; returns £1,500; will bear the fullest investigation; modern-fitted shop; with residence; terms, valuation and small premium for lease and goodwill.

7.—GREAT NORTHERN LINE.—Good-class Business; returns under management about £1,050 yearly; net profit £300; attractive, well-fitted shop; excellent residence; price £450.

8.—INLAND WATERING-PLACE.—Dispensing and Retail; all good middle-class trading; returns upwards of £5,000 yearly; vendor would entertain a partnership with a view to the income taking up the whole within a given period.

9.—HANTS.—Unopposed Business; established many years; returns about £850; net profit exceeds £250; exceptionally good residence, with garden and outbuilding; price £400; this is much below market value.

10.—HUNTS.—Unopposed Business, Retail and Agricultural; returns £825; net profit about £230; comfortable residence, with bathroom and offices, flower and kitchen gardens; rent £25; price £400.

11.—CARDIFF.—Thoroughly sound Retail and Dispensing Business, in busy main thoroughfare; returns £1,500 yearly; excellent premises; vendor is desirous of taking up an appointment, and for a quick sale will accept the value of stock and fixtures.

12.—SUSSEX (In the Heart of the Country).—Good-class Retail and Dispensing Business; returns show a steady increase, now £826; net profit exceeds £300; full investigation invited; price £650.

13.—SHROPSHIRE.—Mixed Business; good medium-class trade; returns average £600; several Proprietaries; well-appointed shop and roomy house; rent moderate; terms, valuation of stock and fixtures.

14.—WESTERN COUNTY (Large Town).—For immediate Disposal, through ill-health, good-class Retail and Dispensing Business; returns £1,350; good residence, with garden attached; vendor will accept any reasonable offer.

VALUATIONS FOR STOCKTAKING.

Messrs. O. & Co. desire to emphasize the necessity of a Periodical Statement of Account, by which means alone Profit, the value of Business, &c., can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted, and eventually becomes the cause of confusion and loss.

Messrs. O. & Co. are prepared to undertake these essential duties, and will make Special Terms for such services.

ORRIDGE & CO., 56 LUDGATE HILL, LONDON, E.C.

BUSINESSES FOR DISPOSAL.

3s. 6d. for 50 words or less; 6d. for every 10 words or less beyond, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 6d.

BANKS OF THAMES.—For immediate Sale, through death of owner, good-class Chemist's and Optical Business, in fine position; returns over £1,850, of which £450 is Optical; excellent profits; handsome modern Pharmacy, with good residence; long lease granted at low rental; price about £1,000, bare value of stock and fixtures; part could remain. Further particulars of Berdoo & Fish, Valuers, 35 Jewry Street, Fenchurch Street, City.

BURNHAM MARKET, Norfolk.—Chemist's and Druggist's Business for Sale as a going concern; well-fitted shop, with residence, in good position; small incoming; immediate possession. Apply, George S. Andrews, Estate Agent, Wells-next-the-Sea, Norfolk.

LONDON (West Suburb on District Railway).—A small Business, capable of vast improvement; good opening for Photography, Dentistry, and Panel work; suitable for qualified or unqualified; return more than double by taking on the above; handsomely fitted and well-stocked shop; price £450 cash. "Haustus" (129/7), Office of this Paper.

MANCHESTER.—Wholesale Drug Business; 50 years' reputation; good opening for energetic man; premises (freehold), stock, fixtures, book debts, and goodwill at valuation, about £2,000; bona-fide buyers only. Apply, 127/23, Office of this Paper.

SURREY.—Very healthy district, growing neighbourhood, about 13 miles out, Light Retail, Prescribing, and Dispensing Business; established 8 years; returns over £800; attractive shop; well stocked; good house and garden; satisfactory reasons for disposal. Apply, 131/23, Office of this Paper.

YORKSHIRE.—Old-established Mixed Country Business, with Wine and Spirit Licence; turnover £1,000, increasing, under management; net profit over £250; growing town; double-fronted shop, with house; best position; suit qualified or unqualified; books prove business genuine; excellent reason for selling; terms to suit purchaser; price complete £650. "Sacrifice" (129/110), Office of this Paper.

BRETT & CO.

Licensed Valuers,

73 LAUREL ROAD, LEICESTER.

Telegrams, "Brett Leicester."

Telephone 1934.

F. J. BRETT, M.P.S.,

GIVES PERSONAL ATTENTION TO ALL VALUATIONS

£800 returns.—KENT.—High-class Retail and Dispensing in fashionable locality; price £750.

£1,100 returns.—CHESHIRE.—Old-established Family Retail; good introduction given; net profit £300; price £550.

Valuations conducted upon the shortest notice at moderate fees.

THOS. TOMLINSON & SON

CHEMISTS' VALUERS, TRANSFER AGENTS,

AND EXPERT STOCKTAKERS,

45a MARKET STREET, MANCHESTER.

ESTABLISHED OVER HALF A CENTURY.

Telegraphic Address: "Tomtom."

KNIGHT & PARTNERS, Ltd.

AUCTIONEERS,

Hold a weekly auction sale for miscellaneous articles of every description. Write for particulars.

27 OLD QUEEN STREET, LONDON, S.W.

BERDOE & FISH

VALUERS & TRANSFER AGENTS,

35 Jewry Street, Fenchurch Street, City.

Telephone: 1809 CENTRAL.

NO CHARGE TO PURCHASERS.

1.—WEST OF ENGLAND.—Old-established good-class Country Retail; returns approach £4,000; net profit about £1,000; splendid position; market town; fine premises; owner retiring; price £2,500; splendid chance for two smart men.

2.—N. WALES (Death Vacancy).—Good Family Retail and Dispensing, in popular health resort; returns £500; no sidelines; plenty of scope; low rent; large shop; fine position; same hands 20 years; price £200, or valuation.

3.—EASTERN COUNTY.—Unopposed Country Retail and Agricultural; returns £850; net profit £200; nearest Chemist 7 miles; very good house, bathroom, etc., large garden; family reasons sole cause of sale; price £400.

4.—SUSSEX COAST (Rising Town).—Well-established Light Retail Business, in good unopposed position; returns about £650; scope for increase; net profit £180; splendid house, nice garden; price only £275.

5.—MIDLANDS (Death Vacancy).—Light Family Retail and Agricultural, in pleasant market town; easy hours; returns £900; net profit £300; good opening for Photo and Optics; one other Chemist; price £425, or first reasonable offer.

6.—LONDON (Near City).—Quick Cash Retail Business, in busy marketing centre; returns about £2,000; excellent profits; smart, up-to-date Pharmacy, fully stocked; price £950; part can remain.

7.—WESTERN SUBURB (Growing Locality).—Light Retail, Dispensing and Prescribing; returns £528, increasing; modern, double-fronted shop, good stock; convenient house; price £300.

STOCKTAKINGS.

Appointments for stocktakings and valuations should be made early. Full particulars and terms sent on application.

Why you should have stock taken is very clearly defined on page 135 of the *C. & D. Diary* for this year. Have you read it?

PARSON C. BAKER

Pharmaceutical Chemist,

TRADE VALUER AND TRANSFER AGENT.

Recommended by British Drug Houses, Ltd.; Meggeson & Co.; Barclay & Son.

Tel. No.: FINCHLEY 812.

VALUATIONS, ESTIMATIONS, EXAMINATIONS, AND FULL REPORTS, Town or Country, on moderate terms.

No charge whatever to vendors or purchasers except by agreement.

Personal Attention
to every detail.

40 years' Valuation
experience.

CORRESPONDENCE INVITED.

1 MOUNTFIELD RD., CHURCH END, FINCHLEY, N.

Price-lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box numbers being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

BUSINESSES FOR DISPOSAL (continued).

CHEMIST-OPTICIAN.—Genuine Business in growing Yorkshire town; best position; double-fronted shop and house; showing net profit £550 to £600; turnover increasing yearly; books properly kept; vendor's own property; lease to suit purchaser; sure fortune for any Chemist expert in Sight-testing; Bank references required; price £1,250. Apply, "Called Up" (130/4), Office of this Paper.

CHEMIST'S Business in fine position at Hastings for Sale as a going concern; reasonable rent; takings average about £1,000 per annum. For further particulars apply to Parkin S. Booth, Esq., Accountant to the Association of Manufacturing Chemists, Ltd., 32 Kimberley House, Holborn Viaduct, London, E.C.

TO CHEMISTS AND DRUGGISTS.

FOR immediate Disposal, very old-established Business in South-Eastern district of London; lease about 15 years to run at £100; upper portion sub-let at £52 per annum. Present turnover £16 weekly, but could probably be increased by an energetic qualified man with a little capital. The Business is being carried on under a deed of assignment for the benefit of creditors, and in order to effect a speedy sale the Trustee would be willing to accept the nominal sum of £100 for the lease and goodwill, the stock, fixtures, and fittings to be taken in addition at a valuation, or an offer for the whole concern would be considered. For further particulars apply, Francis Nicholls, White & Co., Chartered Accountants, 14 Old Jewry Chambers, London, E.C.

IMMEDIATE Disposal.—Owner called up.—Good-class residential district of growing colliery centre, S. Yorks; turnover £700 a year; little N.H.I.; well stocked and fitted; corner position; comfortable house and garden; rent £40; lease arranged; £500 or nearest cash offer. 131/27, Office of this Paper.

OLD-ESTABLISHED Country Business with Wine and Spirit Licence, in a growing town (Wilts), for immediate Disposal through old age; fine double-fronted shop, with large house and garden; low rent and expenses; splendid chance for energetic qualified man to extend present trade; plenty of N.H.I. Dispensing may be had; interview preferred. Apply, 132/17, Office of this Paper.

£100 or near offer secures handsome, large, well-fitted Pharmacy, partly stocked, in country town, East Midlands; good connection immediately secured by up-to-date man; has done good return, but much neglected of recent years; house and garden attached; appointment covers rent. Apply, 131/15, Office of this Paper.

PARTNERSHIPS.

KENT City.—A few hundreds for expanding 1914 Business; returns £700 (also for new Photography and Optical Department); elegantly fitted. "M.P.S." (131/19), Office of this Paper.

GENTLEMAN wanted to take over sole control of good middle-class Retail Chemist's business, situated in healthy London suburb; proprietor willing to enter into partnership with a business man; qualifications half-share £370; or option of purchase by arrangement. Write full particulars experience, age, etc., in confidence, "Hooper" (132/32), Office of this Paper.

FOR SALE.

A MIXING Machine, hand or power driven; capacity $6\frac{1}{2}$ to 15 lb.; never used practically; will sell cheap. A. Mitchell, 23 Waterford Street, Dublin.

FOR immediate Sale, splendid Mahogany Chemist's Fixtures; about 200 Shop Rounds Glass-stoppered Gold-labelled Bottles and Ointment Jars, Mortars, etc., etc.; will be sold cheap. Apply, 167 Gt. Jackson Street, Hulme, Manchester.

TWO-DRAWER National Till; money keys to £3; recent model; good as new. "C. S.," 97 Great Titchfield Street, W.

WHAT Offers?—Quin. Sulph., 100 oz.; Cocain. Pur., 60 gr.; Atropin. Pur., 60 gr.; Codeina Pur., 60 gr.—all Evans', unopened; Phenacetin, 2 oz.; Atropine Sulph., 60 gr.; Guaiacol Carb., 3 drachms; 3 doz. 25's 5-gr. Phenacetin Tablets; 2 doz. 25's 5-gr. Phenacetin c. Caffein; 3 doz. 100's $\frac{1}{2}$ -gr. Saccharin Tablets; 2 doz. 200's $\frac{1}{2}$ -gr. Saccharin Tablets—Cox's, unopened; 4 oz. Thymol; Pot. Permang., 4 lb. Apply, 122/21, Office of this Paper.

1,100 5-gr. Phenacetin Tablets, 7s. per 100; 100 Phenolphthalun Tablets, gr. 13, 5s. 6d.; 6 doz. 43d. Judson's Hat Dyes, 12s. 6d.; 1 cwt. P. Mag. Sulph. Exsic, 31s.; $\frac{1}{2}$ cwt. Pulv. Glycyrrh Co., coarse, sample sent, 36s.; Tea Grinder, "Bartlett," Bristol, £1; Handscomb Seed Screen, 17s. 6d. Morris's, Calais Street, Leicester.

BUSINESSES WANTED.

PHARMACIST intending to purchase small, sound Business on the South Coast after the war desires to open negotiations with prospective vendor; full particulars will be appreciated and treated in strict confidence. Apply, 129/31, Office of this Paper.

AGENCIES.

Price-lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box numbers being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

AGENCIES Wanted.—A firm of General Importers, Indentors, and Manufacturers' Agents have opening for Agencies of all kinds; splendid situation Melbourne business centre; fine naturally lighted showrooms and large windows; reference, Commonwealth Bank of Australia. E. Duncan & Co., Strand Buildings, 152 Elizabeth Street, Melbourne.

AGENCIES.—British or American Drug and Sundry Houses desirous of extending their business in India should communicate with advertiser, who is in India and has had long Indian travelling experience; is well known to the trade; can influence business; replies should state full particulars in first letter, and will be treated confidentially; references exchanged. 130/2, Office of this Paper.

AGENCY.—Advertiser, with offices in Cheapside and an established connection with Wholesale Druggists' Sundries and Surgical Appliance houses and Shippers, is open to act as Agent for another house supplying the Wholesale trade only; an established house and well known to the trade preferred; bankers' and other references given. Apply, "Wholesale" (130/26), Office of this Paper.

FIRM with connections in Latin America open to Agencies for Crude Drugs, Sundries, Chemicals, and Proprietary Medicines for the Argentine and other Latin Republics, also for Puerto Rico and the Philippines; prices to compete with American duties in the two countries last named; good English commercial and banking references. Apply, 127/3, Office of this Paper.

ENERGETIC person, experienced, well introduced, will undertake Sole Agencies after war for Holland and Dutch Colonies only for the Chemist and Druggist branch. Letters to Mr. H. F. Tillema, Groningen, Holland.

PROPRIETOR will accept on sound commission basis (not buying) sole Agency for article suitable for selling along with Drugs, Sundries, etc., at own address; Boracic-acid Socks not objected to. C/o "Statin," 99 Derringham Street, Hull.

QUALIFIED Pharmacist, of many years' travelling experience in Lanes and Yorks with first-class firm, now disengaged, willing to accept Agency, Commissions, or Representation with a good house, either Drug Speciality or allied trades; references, etc. "O. K." (29/13), Office of this Paper.

LÉGAL.

JAMES BAKER deceased.

Pursuant to the Statute 22 and 23 Victoria Cap. 35 intituled "An Act to further amend the Law of Property and to relieve Trustees."

NOTICE IS HEREBY GIVEN that all Creditors and other persons having any claims or demands against the Estate of James Baker late of 70 Tollington Road in the County of London and 73 Farringdon Street in the City of London where he traded as Albert & Co. (who died on the fourteenth day of April One thousand nine hundred and sixteen and to whose Estate Letters of Administration with the Will annexed were granted on the Twenty-second day of June One thousand nine hundred and sixteen out of the Principal Registry of the Probate Division of the High Court of Justice to The Public Trustee) are hereby required to send particulars in writing of their claims or demands to the undersigned the Solicitors for the Public Trustee in this matter on or before the Fifteenth day of August One thousand nine hundred and sixteen after which date the Public Trustee will proceed to distribute the assets of the said deceased amongst the persons entitled thereto having regard only to the claims and demands of which he shall then have had notice and he will not be liable for the assets of the said deceased or any part thereof so distributed to any person or persons of whose claims and demands he shall not then have had notice.

DATED This Thirteenth day of July One thousand nine hundred and sixteen.

WARD, PERKS & TERRY,
85 Gracechurch Street E.C.
Solicitors for the Public Trustee in this Matter.

SITUATIONS OPEN.

3s. 6d. for 50 words or less; 6d. for every 10 words or less beyond, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 6d.

RESULTS
OF ADVERTISING IN THIS SUPPLEMENT
LAST WEEK JULY 22 1916
NATURE OF ADVT. REPLIES
DISPENSER 14
TRAVELLER 13
LADY DISPENSER 12
ASSISTT 10
QUAL. ASSISTT 7

This Blackboard demonstrates that Advertisers using these columns get a ready response to their announcements. The figures only refer to some of the letters RECEIVED AT OUR OFFICE on behalf of Advertisers who use a number or nom de plume.

RETAIL.

BATH.—Assistant required, ineligible for military service; applications from ladies with Pharmacy training entertained; comfortable situation; moderate hours. Particulars to "Chemist," 25 Wellsway, Bath.

BIRMINGHAM.—Assistant, unqualified; accurate Dispenser and obliging at Counter; good salary and hours. Apply, with full particulars, General Manager, Hedges (Chemists), Ltd., Dale End.

BIRMINGHAM.—Lady Assistant wanted, also an Improver, in Light Retail and Dispensing business. State salary (outdoors), experience, and enclose photo, to Chas. Thompson, Pharmaceutical Chemist, Sparkbrook, Birmingham.

BRISTOL.—Wanted at once, smart unqualified Assistant (male); one accustomed to Wholesale who would like a change, or one in office desirous of improving his position might suit. State salary required, etc. (good prospects), Sprackett & Son, Export and Retail Chemists.

BOURNEMOUTH.—Unqualified Assistant, aged 25 to 35, for Dispensing business; permanency to energetic man; outdoors. Give full particulars as to experience, references, and salary wanted, to H. G. Mitchell, Fawley, Wilfred Road, Boscombe, Bournemouth.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN, with 105 beds and Out-patient Department, requires for the period of the War, a qualified Dispenser; attendance required all day, except Sunday; candidates must be ineligible for War service, or have been medically rejected since March, and must have had good experience as a Buyer of Drugs, etc. Applications, with copies of three testimonials, stating age, qualification, experience, and salary required, may be sent at once to the Secretary.

BRIGG, Lines.—Wanted at once, an unqualified Assistant for Agricultural and Dispensing business; no Sunday duty and good hours. Particulars to G. H. Gibson, Brigg, Lincolnshire.

CAMBERLEY.—Wanted early in September, outdoor Assistant with good Dispensing experience. Full particulars to F. A. Cairns, Pharmaceutical Chemist, Camberley.

DARLINGTON.—Managing Assistant required; abstainer preferred. Apply, stating age, height, experience, and salary required, to Waters, Chemist, Darlington.

DEAL.—Wanted at once, capable and energetic Assistant, unqualified (outdoors), for good-class Retail, Dispensing, and Photographic business. Apply, stating age, experience, and salary required, to E. J. Dobson, Chemist, Deal. Also young lady wanted, accustomed to Bookkeeping and Photography.

EVELINA HOSPITAL FOR CHILDREN.

LADY DISPENSER wanted for period of the War, or for at least six months, at above Hospital (70 beds and Out-patient Department). Attendance required all day, except Sundays. Candidates should write fully, stating age, qualifications, past experience, and salary desired. "Minor" qualification preferred, but applications will be considered from ladies who hold the "Assistants' certificate of the Apothecaries' Society, if accompanied by evidence of at least 2 years' satisfactory recent Dispensing experience (preferably at an Institution).

Applications, by letter only, with not more than three testimonials (copies), to Secretary, Evelina Hospital, Southwark, S.E., or to Mr. F. A. Hocking, the Pharmacist, London Hospital, Whitechapel, E.

EARL'S COURT, S.W.—An Assistant required immediately, either temporarily or permanently, for Dispensing business; qualification not essential. Apply, W. W. Brunton & Co., 240 Earl's Court Road, S.W.

EXETER.—Temporary Assistance wanted for six weeks, not necessarily qualified. Full particulars at once to Holman, Ham & Co., Ltd., Market Street, Exeter.

FOLKESTONE.—Assistant wanted; outdoors; short hours; business, high-class Retail and Dispensing; others kept; comfortable berth. Full particulars and salary required to Curtis & Sons, 94 Sandgate Road, Folkestone.

GLOUCESTER.—Trustworthy Assistant; smart, accurate Dispenser; capable; lady with Minor qualification preferred, otherwise experienced man (qualified or unqualified), ineligible for Army service. State age, salary required (outdoors), and all other particulars, to W. H. Hampton, 86 Northgate Street, Gloucester.

LANCASHIRE.—Qualified Manager required for suburban business near large industrial centre; business has been well managed, and now presents an excellent opportunity for North-Countryman anxious to settle down; must be married, of good character, and possess energy and ability. "A. R." (131/180), Office of this Paper.

LANCASHIRE Town.—Wanted, smart unqualified man to Manage a Pharmacy; must be ineligible and have undeniable references. Send full particulars, when at liberty, salary desired, etc., in first letter to "Jacobus" (130/38), Office of this Paper.

LICHFIELD.—Junior Assistant wanted, outdoors, male or female; good Dispenser. Apply, stating age, height, reference, and salary required, W. Charrington, Lichfield, Staffs.

LONDON (City).—Qualified Manager required; must be over 41, have had good experience, and be able to produce undeniable references as to character and ability. "X. Y. Z." (131/181), Office of this Paper.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.—Applications are invited for post of lady Assistant to the Dispenser of this Hospital; candidates must possess the Minor qualifications. Applications, stating salary required, with copies of not more than three testimonials of recent date, must be delivered to the Secretary before August 12.

LONDON, E.—Lady Assistant required; permanency with good prospects to one who has had good Dispensing and some Counter experience. "B. R." (131/18), Office of this Paper.

LONDON, N.E.—Unqualified Assistant for Drug Store; ineligible; active, reliable; good Prescriber; must have good references. Give particulars and wages required, to 132/5, Office of this Paper.

LONDON, N.W.—Wanted at once, unqualified Assistant (outdoors), good Dispenser; ineligible. Apply, with full particulars and salary required, to "Statim" (132/23), Office of this Paper.

LONDON, N.W.—Wanted, qualified Assistant (lady or gentleman) to take charge Light Retail and Dispensing business; also an Assistant (lady or gentleman) accustomed to good-class Retail and Dispensing business. Apply, with full particulars, salary required, etc., to W. J. Dalby, 6 Canfield Gardens, Finchley Road, Hampstead, N.W.

LONDON, S.W.—Capable Assistant wanted; qualified or unqualified; good salary for suitable man. Apply, stating usual particulars, to Feltwell, Chemist, Barnes, S.W.

LONDON, S.W.—Required, Dispenser; hours of work approximately 8.45 to 6 p.m.; no Sunday duty; Saturdays 1 o'clock. Write, giving particulars of experience, to L. J., 589, Sells' Advertising Offices, Fleet Street, E.C.

LONDON, S.W.—Man required, used to handling Stock and Patents, etc. Apply, giving full particulars of past experience, to L. J., 589, Sells' Advertising Offices, Fleet Street, E.C.

LONDON, S.W.—Required, for the Front Counter, Assistants, male and female; hours of work approximately 8.45 to 6 p.m., Saturdays 1 o'clock; no Sunday duty. Apply, giving full particulars of experience, to L. J., 589, Sells' Advertising Offices, Fleet Street, E.C.

LONDON, W.—An experienced, gentlemanly Assistant, accustomed to a high-class Dispensing business; outdoors; hours 8.30 to 7; no N.H.I. Apply, with full particulars, to Mr. Lewis, Chemist, Ealing.

LONDON, W.—Competent Assistant wanted immediately; one with previous West-End experience preferred. Apply personally, or by letter, to J. Munro & Co., 273 Regent Street, W.

MAIDENHEAD.—Wanted, Assistant, lady or gentleman, with good-class Dispensing and Retail experience. Apply, with usual full particulars, including if with Photographic knowledge, to Thompson & Walton, Pharmacists, Maidenhead.

MANCHESTER.—Unqualified Assistant; must be good Dispenser and ineligible for Army. Give particulars of age, experience, and salary to 131/160, Office of this Paper.

MANCHESTER.—Wanted, qualified man, Manchester district; comfortable berth for elderly person. Send all particulars to "Quillol," c/o John Quilliam & Co., Ltd., Canterbury Works, Victoria Bridge, Manchester.

MANCHESTER.—Qualified Assistant wanted for middle of August. State age, experience, and salary required to 131/16, Office of this Paper.

MANCHESTER.—Locum, unqualified, wanted at once; not single-handed; elderly not objected to if active. 132/19, Office of this Paper.

MANCHESTER CHILDREN'S HOSPITAL, PENDLEBURY.—Out-patients Department, Gartside Street, Manchester.—Qualified Dispenser required as Locum for a fortnight commencing August 9. Apply to the Secretary, stating age, qualifications, and salary required, together with references.

MARGATE.—Assistant, outdoors (lady or gentleman), with good references, ineligible for military service, for Dispensing and Retail business for season. State particulars of experience and salary required in first application, W. M. Rosser, J. Bailly & Co., 2 Ethelbert Terrace, Margate.

ST. MARY'S HOSPITAL, PADDINGTON, W.—Wanted an Assistant Dispenser (male), Minor qualification, for six weeks commencing August 7; salary £2 10s. per week, with luncheon and tea. Apply to the Secretary.

SALISBURY.—Unqualified Junior Assistant, outdoors, permanency, either sex, required immediately; also qualified Locum. Full particulars to Atkins & Son, Pharmacists, Salisbury.

SOUTHPORT.—Qualified Assistant, ineligible for military service, required; no Sunday duty, no Insurance Dispensing; Saturdays 1.30 p.m. Full particulars to Geo. Ball, Ltd., 179 Lord Street, Southport.

WATFORD, Herts.—Dispenser wanted (lady); one who would assist with Dressings, etc. Apply, stating age, experience, salary required, and enclosing references, to Dr. Buchanan, 20 Station Road, Watford, Herts.

WEST BROMWICH.—Junior Assistant or Improver wanted (to live in). State age, height, experience, and salary required, also enclose copy of a reference, to Haddock, Chemist, 64 Bull Street, West Bromwich.

WEST END.—Assistant; outdoors; good references; no Sunday duty; ineligible; ladies not eligible. Wileox, Jozeau & Co., 49 Haymarket, S.W.

YORKSHIRE.—Manager required for Mixed country business, with Wine and Spirit Licence, view to purchase on easy terms; suit unqualified; returns £1,000, and increasing. State usual particulars, salary, and references, to "1313" (129/11), Office of this Paper.

AT once, thoroughly competent Assistant for modern Light Store business, without N.H.I.; knowledge of Photography an advantage. Comfortable and permanent position for good man. State salary required and send photo if possible, with full particulars, Stead, Duke Street, Brighton.

COMPETENT Assistant required for Dispensing Counter; outdoors. Full particulars to Nathl. Smith & Co., High Street, Cheltenham.

DISPENSER (temporary) wanted at Joyce Green Convalescent Fever Hospital, Dartford, Kent (under Metropolitan Asylums Board); must be a Licentiate of the Society of Apothecaries, or registered under the Pharmacy Acts (Major or Minor certificate of the Pharmaceutical Society); those holding only the Assistant's certificate of the Society of Apothecaries are not eligible; salary £3 3s. per week, with dinner and tea daily when on duty. Apply to the Medical Superintendent.

DISPENSER (lady) required at once from 12.30 to 5 o'clock daily; salary £50 per annum. Apply in the morning, Central London Ophthalmic Hospital, Judd Street, St. Pancras, W.C.

IMMEDIATELY.—Thoroughly capable Assistant, not necessarily qualified; able to take charge of good middle-class Retail, Dispensing, and N.H.I., Western suburb of London; must have undeniable references. Reply by letter, White, 41 Clerkenwell Green, E.C.

JUNIOR Assistant, ineligible, wanted for a Branch in Black Country; good Mixed business, with N.H.I. Apply, stating age, height, and salary required, with particulars of experience, to 131/1, Office of this Paper.

LADY, middle-aged, required to take stock at Chemist's branches; experience of trade an advantage; good salary if suitable; permanency. Apply, "C. S." (132/24), Office of this Paper.

LOCUM, 4 weeks August, September, Croydon. 132/3, Office of this Paper.

MESSRS. TIMOTHY WHITE CO., LTD., Chemists, Portsmouth, require a capable Pharmacist (male or female); easy hours; good and progressive salary, with excellent prospects.

TAYLORS' DRUG CO., LTD., require the services of one or two smart qualified Chemists; ineligible for the Army. State salary required and when disengaged, Superintendent, P.O. Box 141, Leeds.

QUALIFIED Chemist required (lady not objected to), to Manage small Limited Company business in London. Apply, with full particulars, to 131/35, Office of this Paper.

UNQUALIFIED Assistant wanted for good-class Store trade, Richmond, S.W.; permanency; no Sunday duty. Apply personally, or by letter, Coppen Bros., Ltd., 12½ Carey Street, Vincent Square, Westminster.

UNQUALIFIED Assistant, above military age, required immediately; permanency; progressive berth; vacancy not in London. 131/182, Office of this Paper.

WANTED for fortnight in August, woman Pharmacist; pleasant holiday apartments, with board, in return for two hours' light duty a day; pretty and healthy part of Surrey. Two references, "D. A. B." (129/6), Office of this Paper.

WOULD any Manager (qualified), who has holidays August 20 to 26, or September 18 to 23, care to undertake light Locum work? Private. State terms. If so, please write 130/27, Office of this Paper.

WANTED, Assistant for quick Retail, Dispensing business in S.E. suburbs; outdoors; good wages to suitable man (ineligible). State experience and qualification to "Statim" (132/25), Office of this Paper.

WANTED, 3rd or 4th week in August, Junior Assistant, unqualified and ineligible, with some experience of first-class Dispensing. Apply by letter, stating salary required (outdoors), enclosing photo, and giving height, to 132/14, Office of this Paper.

WANTED immediately, for the duration of the war, a Dispenser to a Partnership of Doctors; must be lady or ineligible for Army; quick and accurate; hours 8.45 a.m. to 8.45 p.m., with two hours for meals. State age, experience, references, salary, and when disengaged, 131/31, Office of this Paper.

WHOLESALE.

CHEMIST.—Dry Cell Manufacturers, near London, require Battery Chemist; state salary required and full details of experience; no person resident more than 10 miles away or already engaged on Government work will be engaged. Apply, 27/11, Office of this Paper.

DERBY.—Wanted immediately, Assistant for Laboratory; ineligible for Army; good all-round experience. Apply, Davies Sons & Co., Bridge Street Laboratories, Derby.

EXPERIENCED Travellers with live connection amongst Chemists and Stores, Wales and West of England, required to Represent Manufacturing Perfumers. Apply, 130/36, Office of this Paper.

FOREWOMAN, with experience in Packing Pharmaceutical Preparations, to take charge of Workroom of Manufacturing Chemist; good salary to well-educated, suitable woman. Apply, at once, to R. Demuth, 69 Salisbury Road, West Kilburn, N.W.

REPRESENTATIVE by firm for one of the quickest selling Lines on the market, to carry their Goods as a Side Line; must have good connection amongst Chemists; liberal commission to right man. Apply, 27/6, Office of this Paper.

TRAVELLER wanted for small Wholesale business, Drugs and Sundries, to work country districts, Eastern Counties; salary, expenses and commission; good prospects. 129/5, Office of this Paper.

WHOLESALE Drug Trade.—Wanted, an experienced Pill Maker and Coater; also Wet Floor and Laboratory Assistants. Address, "Rhei" (29/11), Office of this Paper.

WANTED, by London house, Assistants for Wet and Dry Counters; also Laboratory hands; non-eligible for military service. Apply, stating age, wages required, and previous engagements, to "Druggist" (29/74), Office of this Paper.

YOUNG lady required at once, accustomed to Packing Chemists' Specialities. Apply to John Atkins, Chemist, 109 Queen's Road, Bayswater.

SITUATIONS OPEN.

(Colonial, Indian and Foreign.)

3s. 6d. for 50 words or less; **6d.** for every 10 words or less beyond, prepaid. The **Advertiser** may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of **6d.**

CEYLON.—Wanted, for first-class British business, Assistant, qualified or unqualified, with Dispensing or Wholesale experience; knowledge both preferred; rejected or discharged; age 22 to 29; four years' agreement; liberal terms; give full particulars, experience, and state present salary. Apply, 127/4, Office of this Paper.

CHINA.—An Assistant, accustomed to first-class Retail and Dispensing business; qualified preferred, but not essential; age 21-30; four years' agreement; good salary; passage paid out and home; must be ineligible for military service. Address, "X." (130/25), Office of this Paper.

JAPAN.—Assistant, qualified preferred (three kept), for General Family Dispensing business; short hours; ineligible for Army. For terms apply to J. W. Franklin, 28 Albyn Road, West Dulwich, S.E.

NAIROBI.—Qualified Assistant required; exempt from military service; young man who has passed his Minor about 3 years; agreement for three years at a salary of £20, £25, and £30 per month respectively; passage paid out and home. Apply, G. K., Evans Sons Lescher & Webb, Ltd., 60 Bartholomew Close, E.C.

SITUATIONS WANTED.

1s. for 12 words or less; **6d.** for every 10 words or less beyond, prepaid.

The **Advertiser** may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of **6d.**

[HOME.] RETAIL.

A **LOCUM**; qualified; exempt from military service; 38; excellent references; seaside or country preferred; disengaged August 4. State full particulars to "Cum," c/o Mr. Perkins, Chemist, 6 High Street, Knighton, Radnor.

A **S** Branch Manager or Hospital Dispenser; disengaged; above military age; irreproachable references. 132/28, Office of this Paper.

A **SSISTANT** or Locum; disengaged August 12 to 16. Senex, 32 High Street, Newport Pagnell, Buckinghamshire.

A **SSISTANT**; qualified; 39; married; disengaged; ineligible. Stewart, 3 Elborough Street, Southfields, S.W.

A **SSISTANT**; ineligible; disengaged. Apply, D. E. Williams, 21 Gwendraeth Town, Kidwelly.

A **SSISTANT**; unqualified; Counter, Dispensing; Extractor; Midlands, Sheffield, or Nottingham; over military age. "Phenacetin" (131/17), Office of this Paper.

A **UGUST**.—Dispenser, just passed Minor from "Square," requires experience; salary moderate. 129/10, Office of this Paper.

BRANCH Manager; age 31; married; ineligible; unqualified; 17 years' experience; East Lancashire town preferred. "Reliable," 40 St. Ignatius Square, Preston.

DISENGAGED, Locum; permanency; moderate terms; good references and experience; qualified. "Statim" (30/2), Office of this Paper.

DISPENSER (R.A.M.C. qualification), with Doctor, Institution or otherwise; part or whole time; experienced; abstainer; Kensington preferred. Hunter, 26 Campden Street, Kensington, W.

DISPENSER desires change; 30; ineligible; Hall certificate. Apply, 130/35, Office of this Paper.

ELDERLY Chemist, M.P.S., requires light work; easy terms; permanency. Address, 129/35, Office of this Paper.

EVENINGS.—Dispenser (Hall); Doctor or N.H.I. "G. H. P.," 103 Portnall Road, St. Peter's Park, W.

EXPERT Photographic Assistant, thoroughly understands all branches of Photography, seeks new berth; age 30; married; rejected Medical Board; 11 years' previous employment; disengaged August 24; excellent references. Lloyd Elias, 1 Elizabeth Villas, Llandudno.

IMMEDIATELY.—Ph.C., with high-class West-End and Provincial experience, requires sole control; age 40; highest references; London preferred. 131/2, Office of this Paper.

LADY Dispenser, 23 (Hall), qualified, experienced, desires post with Doctor or Institution, in or near Brighton. 129/36, Office of this Paper.

LADY Dispenser (Hall) requires post in Institution with Doctor or Chemist; some experience; bracing climate essential. Haward, Belgrano, Valencia Road, Worthing.

LADY Dispenser, Hall qualification, experienced, requires post with Doctor; country town preferred. Miss Image, 67 Harcourt Terrace, Redcliff Square, S.W.

LADY Dispenser (Hall), experienced, wishes part-time or light post; London or N.W. suburbs. 131/10, Office of this Paper.

LOCUM Manager; qualified; just over military age; tall; good address; all-round experience; free August, September. Pharmacist, 9 Grantbridge Street, N.

LOCUM lady Dispenser, Institution; second and third week September preferred. Miss Attwood, Roselea, Pear Tree Avenue, Itchen, Southampton.

LOCUM Tenens; disengaged July 31; middle-aged; references. "L. T.," 1 Eton Road, Newport, Mon.

LOCUM; experienced London and provinces; qualified; disengaged. "Viburnum" (131/20), Office of this Paper.

LOCUM, Pharmacist, offers week's Relief (light duties), seaside or country end August. Parker, 654 Stratford Road, Birmingham.

LOCUM, qualified Chemist, desires engagements during August and September only; London and district; thoroughly experienced; highest references. 133/15, Office of this Paper.

LOCUM; unqualified; West experience; seaside or country; disengaged August 7 till 19; state full particulars. Apply, 133/14, Office of this Paper.

LONDON Only.—Branch Manager; Assistant; over military age; unqualified; abstainer; Front Counter; Dispensing; disengaged Sept. 4. State salary, "Hodie," 10 Alfearn Road, Clapton, N.E.

M.P.S. DISPOSED of his business; abstainer; well connected; part-time, Locum. "Nottm." (129/1), Office of this Paper.

MAN requires Evening work, B.P., Toilets, Proprietaries, etc.; generally useful to Dispensers and in shop. "Energy" (133/20), Office of this Paper.

MANAGER; 45; unregistered; competent Dispenser and Salesman; active, reliable, single; 8 years Manager. "Statim," 111 Soho Road, Handsworth, Birmingham.

MANAGER; qualified; ineligible; City or West End; best-class businesses only; outdoors; disengaged end of August. Pharmacist, 41 Cranbourne Street, W.

MINOR, elderly, Dispensing and Counter; disengaged; tall; active; outdoors; S.W. or S. preferred; state hours and salary offered. Apply, 131/39, Office of this Paper.

PART-TIME.—Qualified, evenings, Saturday 2 p.m., occasional Sundays. Pharmacist, 5 Claverton Street, S.W.

PHARMACIST (31), married, active, reliable, seeks position good country business; preferably offering an interest. "Rhei," Kelston, Christchurch, Hants.

PHARMACIST, thoroughly experienced in Management, is open to offers of Managership; reasonable hours desired; could arrange to purchase if satisfactory; please give full details, in confidence, of locality, hours, and salary offered. Apply, 131/37, Office of this Paper.

QUALIFIED Manager; married; 32; permanency; good experience Photography. State salary offered, 127/30, Office of this Paper.

QUALIFIED Manager or Assistant; permanency preferred; thoroughly experienced. Davies, Ty. Cwrdd, Llwyn Hendy, Llanelly.

QUALIFIED; 24; seven years' good experience; ineligible. Jenkins, "Bryn Eglwys," Maudlam, Pyle, Glam.

QUALIFIED; aged 27; good references. "Pharmacist," 6 Sutherland Street, Colne, Lancs.

QUALIFIED; mature age; manage, assist; moderate hours; London or near. 131/7, Office of this Paper.

QUALIFIED desires Evening work; at liberty after 6.30 p.m., and Sundays. Reply, "Statim" (133/16), Office of this Paper.

QUALIFIED Pharmacist, over military age, abstainer, recently disposed own business, would accept appointment as Manager or Managing Assistant in good country business offering good prospects to capable man; South Coast or near preferred; salary £4 weekly and share profits; at liberty end September. 131/150, Office of this Paper.

STUDENT (Colonial) desires immediate Dispensing for about a month. Apply, 130/37, Office of this Paper.

UNQUALIFIED Assistant (46), married, desires change; Bristol, Bath, or Weston-super-Mare preferred; high-class Dispensing, Counter, and Photography. Apply, stating salary, hours, etc., 131/12, Office of this Paper.

UNQUALIFIED; 45; Counter, Dispensing or Doctor's Dispenser. Thomas, Cumberland House, Abergele.

UNQUALIFIED Manager or Locum; entertain purchase; disengaged August 5; town or country. 130/40, Office of this Paper.

YOUNG lady desires post as Dispenser; Liverpool or district; some shop experience. Apply, 129/13, Office of this Paper.

WHOLESALE.

ADVERTISER seeks situation in Surgical Instrument firm; knowledge of Orthopaedic work and Fitting, also good knowledge of Drugs and Sundries. 120/35, Office of this Paper.

ASSISTANT, experienced in Pharmacy and the Manufacture of Perfumery, good business and organising ability, not afraid of hard work, speaks French and English, wants permanency. Write, "M. M." (130/30), Office of this Paper.

GENTLEMAN knows ground 100 miles round Nottingham (Doctors, Chemists), wishes to Represent first-class Drug House; excellent references; ineligible Army; disengaged. Apply, "Galeucal" (131/13), Office of this Paper.

TOWN Traveller, well known to Chemists' Stores and Wholesalers' in London and suburbs, is at liberty to take up Agency with established firm; good business is assured for saleable Line; Advertiser wishes to meet with firm desirous of opening in London; connection guaranteed; Tablet and Lozenge Manufacturers also suitable. 133/17, Office of this Paper.

TRAVELLER, old and extensive connection in the Drug trade, seeks additional commission; can give effective Representation to a good House. 130/20, Office of this Paper.

TRAVELLING.—Lady, smart, energetic, good business experience, desires to Represent good firm or some well-known Proprietary Article. 126/32, Office of this Paper.

TRAVELLER, qualified Chemist, requires re-engagement; experienced, energetic, successful; excellent selling record and connection with Chemists, Stores, Institutions, and general; intimate knowledge Drug, Sundries, Essence, Disinfectant, etc. trades; first-class references; ineligible Army; disengaged. 131/40, Office of this Paper.

MISCELLANEOUS.

FOR Sale, several thousand once-filled Motor Spirit Steel Drums, clean; gauge 16 head, 18 body; tap screw in head, screw bung in bilge; two running hoops; weight about 60 lb.; capacity 44 Imperial gallons; 25s. each F.O.B. Barrow-in-Furness. Address Anglo-American Oil Co., Ltd., 36 Queen Anne's Gate, London.

SHOP FITTINGS.—War Bargains; Mahogany and Plate Glass Sponge Case with bent top, 75s.; 10 ft. Mahogany and Plate Glass Serving Counter, £8; Perfumery Case and Desk, 52s. 6d.; 4 ft. Bent Counter Case, 45s. Write enquiries, **PHILIP JOSEPH & SONS, LTD.**, 93 Old Street, London, E.C.

SECOND-HAND Chemists' Fittings.—We have an exceptionally fine selection of these in all sizes; prices are right, and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, **RUDDUCK & CO.**, 262 Old Street, London, E.C.

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Lowest quotations for *Cascara tablets in bulk.*

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DISPENSING BOTTLES & PHIALS.

CLEAR BLUE TINTED.—3 and 4 oz., 6 and 8 oz., 12 oz., 16 oz. Plain or graduated.

BEST QUININE, TINTED.—3 and 4 oz., 6 and 8 oz., 12 oz., 16 oz. Plain or graduated.

WHITE PHIALS.—½ oz., 1 oz., 1½ oz., 2 oz. Plain or teaspoon.

BLUE LOTION BOTTLES.—½ oz., 1 oz., 1½ oz., 2 oz., 3 oz., 4 oz. 6 oz., 8 oz., 12 oz.

PANEL BOTTLES. We send six gross assorted or otherwise, carriage paid within seven miles, and to certain stations. Particulars on application.

CORKS. Good quality. No advance in price: 6 and 8 oz. bottles, 9d. per gross in 6 gross bags. Vials 6d. per gross in 3 gross bags.

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Or **ISLINGTON BOTTLE COMPANY**, 7 New Inn Yard, Tottenham Court Road, London, W.

Orders sent to either establishment have attention.

Established 100 Years.

WAR WANTS EXCHANGE.

For the terms upon which announcements are inserted herein see Supplement for July 22, p. xx

WANTED.

Anthraxol (132/13)	Orthoform (132/13)
Bromural tablets (132/13)	Pertussin (132/13)
Eau de Cologne 4711 (129/20)	Picric acid (129/9)
Ems pastilles (132/13)	Pollantin-powder (23/35)
Euresol pro capillis (132/13)	Pot. iodide (129/9)
Iodine (129/9)	Sodium sozoiodol (132/13)
Iodoglydine tablets (132/13)	Styracal (132/13)
Iodol (132/13)	Ung. cycloform. co. (132/13)

FOR DISPOSAL.

Eserine sulphate, gramme tubes (110/1)	Pot. permang., 8 lb. (129/14)
Phenacetin tablets (110/1)	Resorcin, 6 oz. (slightly discoloured), and 2 oz. (perfectly white) (26/72)
Phenacetin, 8 oz. (132/16)	Pot. permang., 24 lb. (132/33)
Pot. permang., 6 oz. (132/12)	Resorcin, 4 oz. (132/12)
Quinine valerian, 6 oz. (132/12)	Saccharin tablets, 6 500's (129/14)
	Santonin (132/12)

EXCHANGE COLUMN

One halfpenny per word with name and address. One penny per word if we register the address and attach a number. No advertisement inserted for less than 6d.

FOR DISPOSAL.

DRUGS AND CHEMICALS.

1 lb. salol, 42s. 6d. lb. Gilbert Jackson, Ltd., Chemists, Sheffield.
PHENACETIN, 8 oz. 40s.; 300 phenacetin tabloids, 17s. Jean, Chemist, Jersey.
 4 100-gall. nitrous-oxide cylinders, 58 bromural tablets; what offers? Harrison, Grayshott.
NAPHTHALINE disinfectant shells, 15 gross; 5 gross carriage paid for 30s., less quantity 6s. 6d. per gross carriage paid. Waterhouse, Weston Street, Sheffield.

PROPRIETARY ARTICLES.

MAW'S pessary mould, electroplated, oval, for 6; cost 33s. new; what offer? Lamont, 60 Gleneagle, Scotstoun, Glasgow.

MISCELLANEOUS.

18 only 4-gall., 48 only 2-gall. stone bottles; have contained oil; what offers? Francis & Co., Chemists, Wrexham.
ADHESIVE price tickets, 36 gross packets of 100, separate prices, from 4d. to 18s. 11d.; cheap to clear, for cash or exchange, part or whole. H. Rowland, Bodmin.
HONEYCOMB sponges, about 300 pieces, 6d. line; overbought; send 3s. 4d. postal order and 1 doz. or more forwarded per return. Sliann, Newport, Salop.
 TWO mahogany 5-grain pill machines, 12 and 24, 10s. the two; brass suppository and bougie moulds, 5s. the two; personal weighing machine, fixed weights, 2 guineas, cost 5. Drug Stores, 19 High Street, St. Lawrence, Kent.

WANTED.

SPARKLET "B" bulbs. State price and quantity to W. A. Bell, Chemist, Southsea.
NYAL'S celery nerveine, face-cream, etc., required. Mayne, 17 Bridge Street, Cork.
SOLDIER wants "Martindale's Extra Pharmacopœia," 14th edition. State price, 116 Barcombe Avenue, Streatham Hill, S.W.
 A **PERSONAL** weighing machine, in good condition and accurate. State price and full particulars, Lima Jones, Chemist, Aberystwyth, Cardiganshire.
OPTICAL books, Minor, Major, Chemists' books; send prepaid for valuation; cash offers per return. Gower, Bookseller, 41 Voltaire Road, Clapham, S.W.

BOXES

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For the Druggist and Sundriesman

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Send us your Samples or Sizes and we will quote you by return.

J. DAVIDSON & CO., 98 SHEPHERDESS WALK, CITY ROAD, LONDON, N.

Death of Lieutenant E. H. S. Evans.

Mr. W. P. Evans, director of Evans Sons Lescher & Webb, Ltd., Liverpool, and President of the Liverpool Chemists' Association, received official intelligence on Wednesday, July 26, that his second son, Lieutenant Edward Herbert Sandford, of the Lancashire Fusiliers, was killed on July 22. He was twenty-four years of age. As "Mr. Bertie," he was a most popular member of the Evans staff in Liverpool, and had it not been for the war he would have by this time been a director of the company. His portrait was included in a group of his father and three soldier sons which was printed in the *C. & D.*, January 29, p. 131. A fellow-officer, writing to his father, said: "It was at the head of his company, while leading an attack against the enemy position, that he was wounded high up in the thigh by a bullet. Owing to the impossibility of removing him to the dressing-station in time, he died of loss of blood. We brought him down this morning [July 22], and buried him in a little mortuary in a valley between Maricourt and Carnoy. His loss is very much regretted by all ranks in the battalion and by the many friends he has made throughout the division, and all join me in my deepest sympathy with you and all his friends and relations in the loss they have sustained. It will be a consolation, however, to know that he met his death while leading his men, and no British officer can have a higher ambition than to meet the dangers and horrors of this war with the fortitude and coolness with which your son met them."

Cablegram.

NEW YORK, July 26.—Business in drugs is fair. Opium has been reduced a further 25c. to \$11 per lb. for drug-gists'. Cartagena ipecac. is 10c. dearer at \$1.60 per lb. Jalap is easier at 11c., and buckthorn-bark has been reduced to 38c. Mexican sarsaparilla is slightly easier at 12c. Senega is dearer at 43c., and short buchu-leaves have been reduced to \$1.15 per lb.

Drug-auctions in London.

Commercial Sale Rooms,

Mincing Lane, E.C., July 27.

As the literary section of this Supplement closed for press at 3 P.M., the following report of the drug-auctions is of necessity brief. A large quantity of drugs offered, including 1,253 packages of honey, 152 packages sarsaparilla, 74 packages senna, 148 cases eardamoms, 170 packages wax, 124 cases Cape aloes, etc. Only a small proportion of the offerings sold, the tone being extremely dull, and prices were mostly in favour of buyers. Cape aloes, of which there have been large arrivals, failed to sell, and easier prices would be accepted. Sumatra benzoin and cardamoms were quite neglected, calumba brought firm rates, and for cascarrilla continued high prices were paid. Common dragon's-blood sold cheaply without reserve, and for Siam gamboge, which is now more plentiful, buyers held off. Unusually large quantities of honey were offered, and sold at irregular but generally lower prices. Sea-damaged ippecacuanha filled the market demand at good prices compared with sound, the values of which are easier. Kola is dearer on small supplies. Myrrh sold steadily, and menthol was forced off without reserve. Nux vomica is tending easier owing to accumulations. Shensi rhubarb was lower on sales without reserve, but flat High-dried is steady. Sarsaparilla was in good demand at generally steady prices. Senna is more plentifully offered, and prices were cheaper for Tinnevely. Beeswax was quite neglected with the exception of Jamaica, which was 5s. dearer.

ALOES was quite neglected. Cape, which is plentiful, is tending easier, and 44s. would be accepted for good firsts: only two cases sold at 38s. for ordinary seconds, part cindery.

ANNATTO-SEED.—Five bags of fair bright Ceylon brought the higher price of 7½d. per lb.

BALSAM TOLU.—Steady, two cases of fair selling at 1s. 6d. per lb.

BENZON was extremely slow of sale, only four cases of common false-packed seconds selling at 6d. 5s. per cwt.

CALUMBA is very firm, 20 bags of small to bold yellow bright washed selling at 45s., and for a further 15 bags of small to medium natural fair, slightly wormy, 40s. was paid.

CAMPHOR.—A lot of 71 cases Japanese 2½-lb. slabs, being smoke and water damaged, sold, with all faults, at the full prices of from 1s. 9d. to 1s. 9½d. per lb.

CARDAMOMS.—There was practically no demand, only 23 cases being sold, including extra bold pale Ceylon-Mysore at 4s. 6d., good bold pale splits at 3s. 6d. subject, medium and bold brown splits 1s. 4d. to 1s. 5d., inferior and sea-damaged split and pickings at 8d. per lb. Prices generally tended easier.

CASCARRILLA still brings extremely high prices, 33 bales being disposed of at from 90s. to 95s. for small lean stringy to fair bright quill, 85s. to 87s. 6d. for brown lean seconds, and 65s. to 75s. for common lean stringy and dusty.

CUMIN-SEED.—A lot of 103 bags Morocco sweepings sold at 13s. 6d. for sound and 7s. 6d. for sea-damaged.

DRAGON'S-BLOOD.—Eight cases of common bag-shaped lump sold cheaply at from 87s. 6d. to 95s. per cwt. without reserve, and for a further three cases on the usual conditions 90s. per cwt. was paid.

HONEY.—Jamaica sold at irregular but generally lower prices, and towards the end of the auction 236 packages were bought in. Practically 300 packages Jamaica sold, including good to fine pale set, 51s. to 58s.; brown and yellowish set and setting, 41s. to 46s.; hard-set brownish, 40s. to 41s.; dark-brown liquid, partly setting, 38s. to 39s. Of Cuban, 15 casks good bright pale liquid amber sold at 43s., and 27 barrels Hayti sold at 46s. for pale set and 42s. for palish set and liquid amber mixed.

IPPECACUANHA.—Only sea-damaged Matto Grosso sold, 11 bales being disposed of at full prices, from 9s. to 10s. 9d. (one lot 11s.) being paid, according to damage; 12s. 6d. per lb. will readily buy fair sound Matto Grosso, and 8s. to 8s. 6d. Cartagena. Of Johore, 22 bales offered at the conclusion of the auction, but no response was made to a suggestion of 10s.

KOLA was rather dearer, two bags of small to medium fair West Indian halves, a few wormy, selling at 6½d. per lb.

LYCOPodium of fair quality was offered at 6s. 6d. per lb.

MENTHOL.—Ten cases of Yazawa sold without reserve at from 9s. 10d. to 10s., the bulk at the lower price. A further five cases of Suzuki were bought in at 11s. 6d. per lb.

MYRRH sold at steady prices, including three bales of bold blocky reddish drop at 46s., two cases reddish siftings at 47s., and a case of dust at 35s.; fair slightly blocky sorts were retired at 75s.

NUX VOMICA is tending easier, 35 bags selling at from 22s. to 24s. for ordinary brown to fair.

QUINCE-SEED.—A single bag of fair sound Cape sold cheaply at 1s. 6d. per lb.

RHUBARB.—Quiet. The principal sales were without reserve, and comprised 30 cases, including medium to bold round orange-coated Shensi, with three-quarter fair pinky fracture, at from 2s. to 2s. 1d., medium to bold flat ditto at from 1s. 9d. to 1s. 10d., and small flat at 1s. 11d. Fifteen cases of medium to bold round horny High-dried, with three-quarter fair pinky fracture, sold without reserve at 7d.; and a further lot of three cases small to medium, with two-thirds dark and one-third pinky fracture, sold at 7d. On the usual conditions four cases of small to bold flat High-dried, with three-quarter fair pinky fracture, sold at 1s. 4d., at which sales have been made privately.

SARSAPARILLA was in very steady demand, the principal sales being Lima, of which 40 bales were disposed of at from 1s. 2d. to 1s. 5d. per lb. as to quality. Of grey, Jamaica, 23 bales sold at from 1s. 6d. to 1s. 10d. per lb. for common, part coarse, to good grey. Native was also in demand, 14 packages selling at 1s. to 1s. 1d. for dullish to fair red, 9½d. to 10½d. for dull yellow to dull red mixed, and 8d. for very inferior.

SENNA.—Tinnevely leaf is lower, but again higher prices were paid for pods, seven bales darkish selling at from 1s. 9d. to 2s. 2d. (three bales at 1s. 5d.); good bold leaf sold at 11½d., small to medium greenish leaf at 8d. to 9d., common yellowish sea-damaged 6d. and low siftings 2½d. subject. Inferior yellowish leaf was mostly held at 6½d., but there were no buyers at the price. Of Alexandrian siftings 10 bales went at 1s. 2d.

WAX, BEES.—Jamaica was 5s. dearer, 23 packages selling at from 8d. to 8l. 5s. for ordinary brown to fair red and brown mixed, and for very dark brown 7l. 12s. 6d. to 7l. 17s. 6d. was paid. This was practically the only description sold. Two cases of good pale yellow Antigua sold at 7l. 12s.

WAX, VEGETABLE.—Forty-five cases of Japanese sold without reserve at from 52s. 6d. to 55s. for slightly yellowish squares.

LIME-JUICE.—Private market is firmer at from 3s. 3d. to 3s. 6d. per gal. for good West Indian.

TARTARIC ACID.—Sales of powdered in ton lots have been made at 3s. 3½d. The price at the close is 3s. 4d.; crystals are scarce.

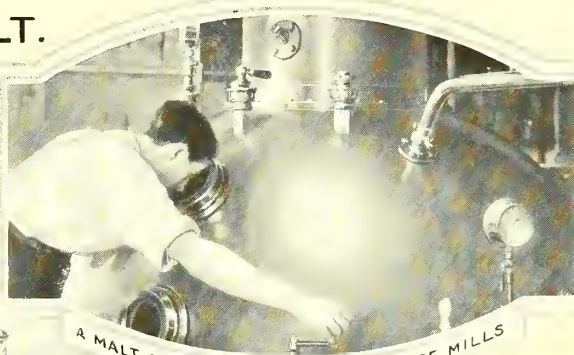
Extract of Malt

WITH COD LIVER OIL,

AND EXTRACT OF MALT.



GRINDING MALT, WARE MILLS



A MALT EXTRACT VACUUM PAN, WARE MILLS

Extract of Malt with Cod Liver Oil

Packed in amber-tinted glass jars, metal caps.

$\frac{1}{2}$ lb., 1 lb., 2 lb., 4 lb. by weight.

Extract of Malt

Packed in amber-tinted glass jars, metal caps.

$\frac{1}{2}$ lb., 1 lb., 2 lb., 4 lb. by weight.

SPECIAL QUOTATIONS SENT ON REQUEST TO BUYERS OF 6 DOZEN LOTS AND UPWARDS.

Samples or Prices forwarded on request.



FIG.1825C

FIG.1775.

FIG.1577.

FIG.1820

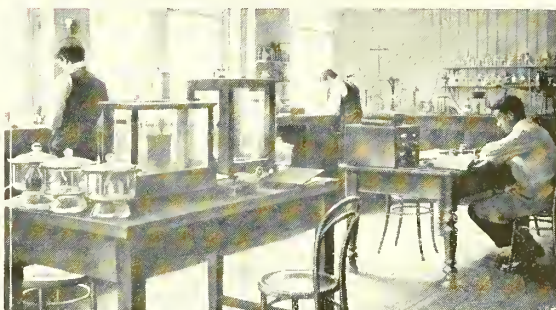
FIG.474

FIG.1776.

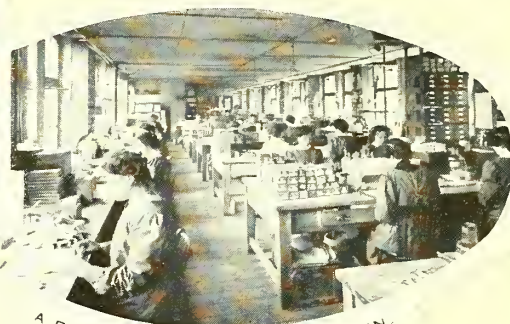
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Packed Drugs (NON LIABLE) and Pharmaceuticals.

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A CORNER OF THE ANALYTICAL LABORATORY, B.C.



A PACKING ROOM, BETHNAL GREEN.

Ammoniated Tincture of Quinine

1 oz., 2 oz., 4 oz. white glass stoppered flats.

Chemical Food

4 oz., 8 oz., 16 oz. dispensing flats.

Neuralgia Mixture

6 oz. and 12 oz. dispensing flats.

Compound Liquorice Powder

No. 3: 2 in 4 oz., 4 in 8 oz. white glass kalis.

"One Day" Cold Cure

Boxed, 24 and 36 in each.

Quinine and Iron Tonic

6 oz. and 12 oz. dispensing flats.

Gout and Rheumatic Mixture

6 oz. and 12 oz. dispensing flats.

Milk of Magnesia

4 oz. and 8 oz., wrapped.

Sugar of Milk

$\frac{1}{2}$ lb. and 1 lb. lever lidded tins.



ALLEN & HANBURY'S LTD., LONDON.

Norwegian Cod Liver Oil,

CASTOR OIL, EUCALYPTUS OIL, ETC.



A. & H'S CLO FACTORY, NORWAY.

Norwegian Cod Liver Oil

Packed in panelled flats.

4 oz., 6 oz., 8 oz., 12 oz., 16 oz., 24 oz., 32 oz.

Also supplied in ovals and dispensing flats.

Eucalyptus Oil, B.P.

Packed in white glass flats.

Sizes : 1 oz., 2 oz., 4 oz.

Castor Oil

Packed in panelled flats.

1 oz., 2 oz., 4 oz.

Special quotations to Buyers of 1 gross lots and upwards.

SAMPLES AND PRICES FORWARDED ON REQUEST.

THE RACE FOR THE FISHING GROUND



ALLEN & HANBURY'S LTD. LONDON.

The 'Allenburys' Jujubes & Pastilles.

MADE BY
PATENT PROCESS.



A CURRANT PLANTATION, WARE MILLS.



DRYING PASTILLES, WARE MILLS.

The "Allenburys" Pastilles

Supplied in decorated tins.

Prices: Retail, 6d. and 1/-; Wholesale, 4/- and 8/- per doz.
½ lb. and 1 lb. air-tight tins, 12/6 and 24/- per doz

The "Allenburys" Medicated Throat Pastilles

Supplied in decorated tins.

Prices: Retail, 1/- and 1/10; Wholesale, 8/- and 14/6 per doz.
1 lb. air-tight tins: Retail, 3/6; Wholesale, 28/- per doz.

For list of Medicated Pastilles see pages 131 to 134
General Price List.



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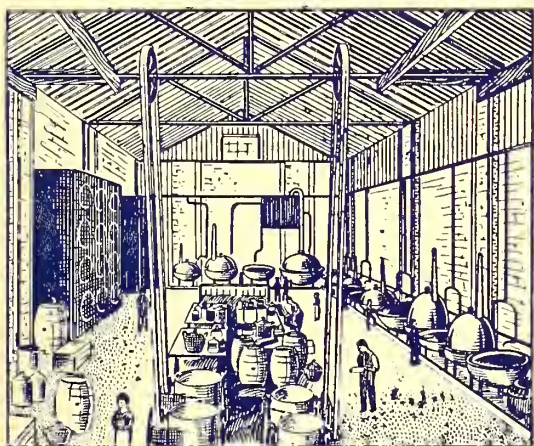
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STEAM LABORATORY

Fine Chemicals of all descriptions.

Concentrated Infusions, Decoc-
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Extracts, Solid and Fluid.

Powdered Drugs, Standardised.

Essential Oils, and Concentrated
Soluble Essences.

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Emulsion of Cod Liver Oil,

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Carlsbad Salts.

Disinfectants, Krysol, Krysyl
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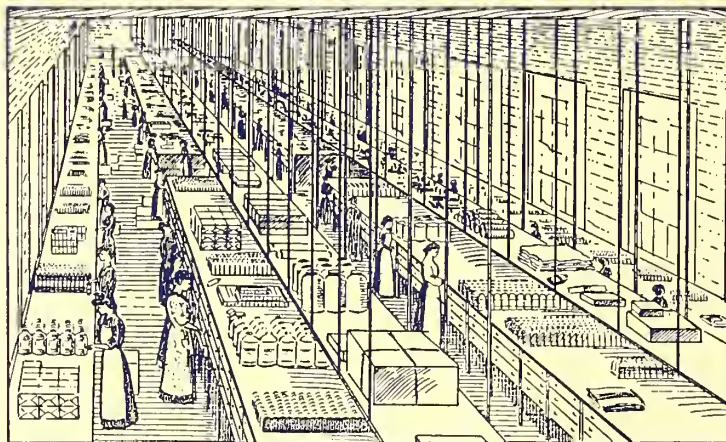
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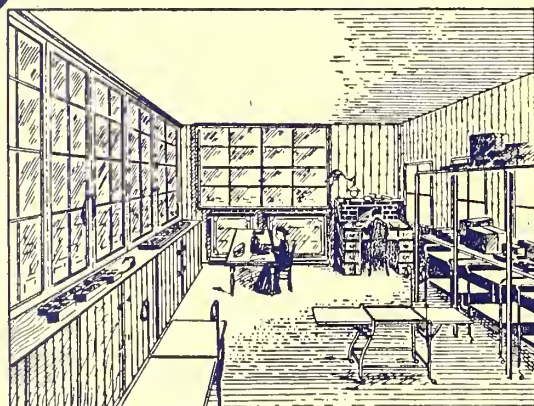


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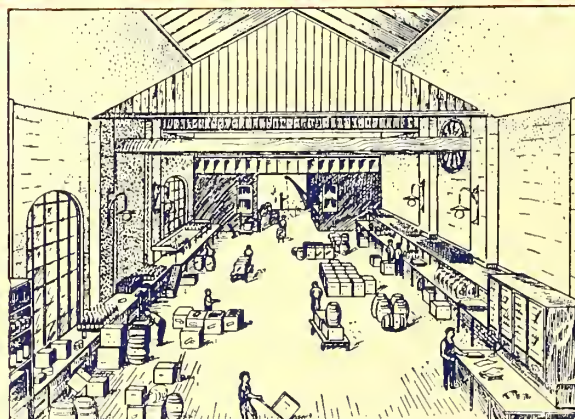
1. *Drugs, Chemicals and Pharmaceutical Preparations, etc.*
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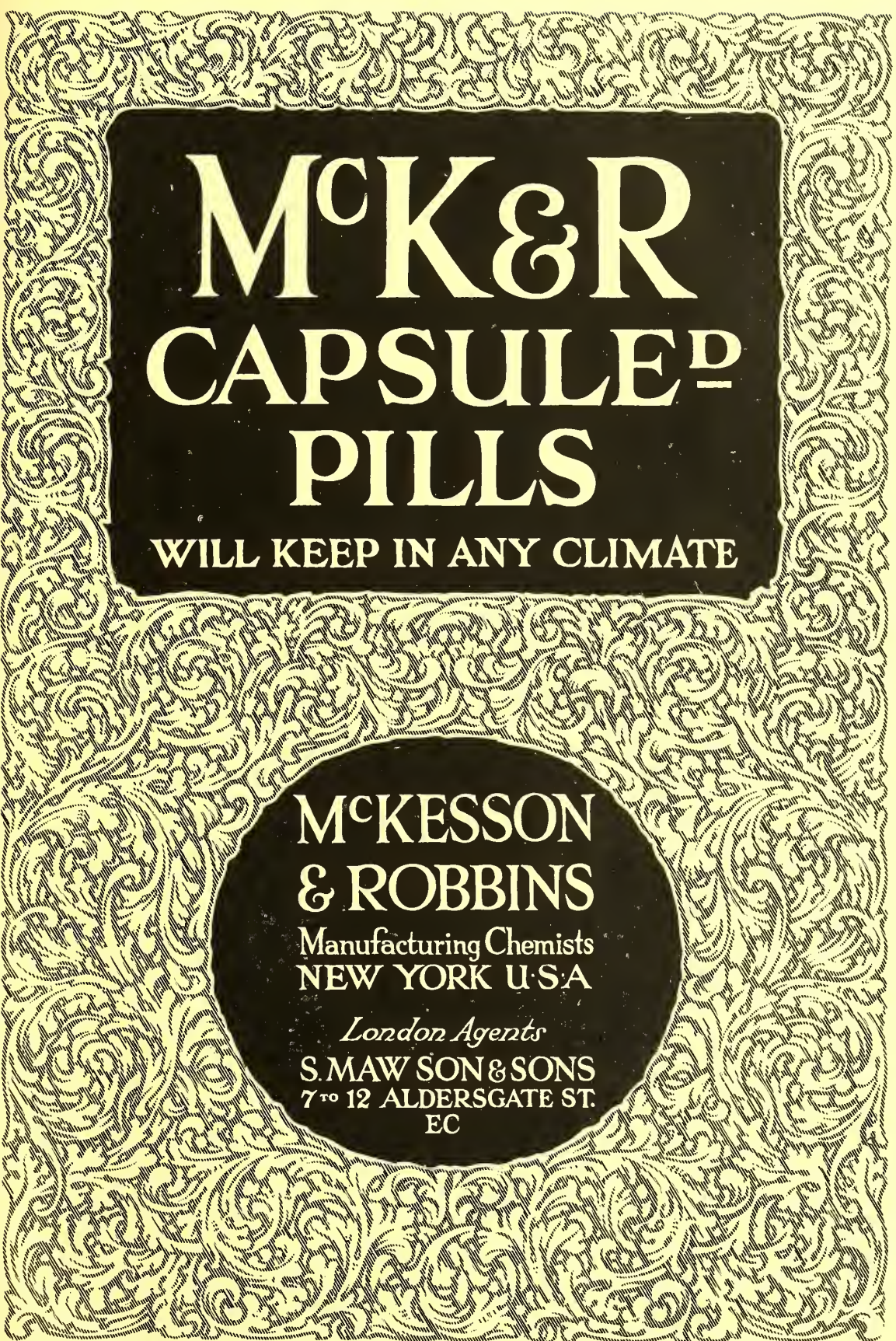
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McK&R CAPSULE[®] PILLS

WILL KEEP IN ANY CLIMATE

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IMPORTANT REDUCTIONS HAVE BEEN MADE IN LIST PRICES

"McK. & R." Capsuled Pills

According to Formulas of the British Pharmacopœia and other Standard Authorities

ACONITE CRYSTALS,

1-500 gr.

Dr. A. Dumas considers aconitine an energetic and very efficacious remedy, especially in congestive facial neuralgia. He lays great stress on the necessity for a reliable preparation, and we, therefore, call particular attention to these pills.

ALOE, OILUTE (Dr. Hall Dinner Pill), 4 grs.

Aloes Barb., Pulv. Ext. Glycyrrh.,
Saponis pulv., Theriaca, aa, 1 gr.

ALOE AND IRON, B. P., 5 grs.

ALOE AND MYRRH, B. P., 3 and 5 grs.

ALOIN, 1-10. 1-4, 1-2 and 1 gr.

In an article on the management of Simple Constipation, the late Sir Andrew Clark said, "If the use of drugs is unavoidable, try the aloin pill. Take one half an hour before the last meal of the day, or just so much of one as will suffice to move the bowels in a natural way the next morning before breakfast. If it should produce a copious motion, or several small motions, the pill is not acting right; only a fourth, or even less, should be taken for a dose. When the right dose has been found it may be taken daily or on alternate days until the habit of defecation is established." Dr. Clark used aloin in combination with nuxvomica, iron, myrrh, etc. (See Aloin or Aperient, No. 4.)

ALOIN COMPOUND.

Aloin, 1-8 gr.
Ext. Belladonna, 1-4 gr.
Podophyllin, 1-8 gr.

ALOIN, HYOSCYAMUS, NUX VOM. AND IPECAC.

(Pil. Salutis, Dr. Thomas.)

Aloin, 1-2 gr.
Ext. Hyoscy., 1-4 gr.
Ext. Nucis Vom., 1-4 gr.
Pulv. Ipecac., 1-6 gr.

A gentle laxative and an aid to digestion; one at bedtime and repeat just after breakfast if necessary.

ALOIN AND STRYCHNINE.

Aloin, 1-5 gr.
Strychnina, 1-60 gr.

A tonic laxative granule, prescribed for chronic constipation where a painless peristaltic action is desired. Especially useful in the treatment of the aged.

ALOIN, STRYCHNINE AND BELLADONNA.

Aloin, 1-5 gr.
Strychnina, 1-60 gr.
Ext. Belladonna, 1-8 gr.

A tonic laxative granule, prescribed where a painless peristaltic action is required.

ALOIN, STRYCH. AND BELLADONNA COMP.

Aloin, 1-5 gr.
Strychnina, 1-60 gr.
Ext. Belladonna, 1-8 gr.
Ext. Rhamni Purshianæ, 1-2 gr.

A laxative in habitual constipation. Dose, 1 pill, repeated three times a day if necessary.

ALOIN, STRYCH., BELLADONNA AND IPECAC.

Aloin, 1-4 gr.
Strychnina, 1-60 gr.
Ext. Bellad., 1-8 gr.
Pulv. Ipecac., 1-16 gr.

A prompt and efficient tonic laxative; does not gripe.

ALOIN OR APERIENT, No. 1.

Aloin, Ext. Nucis Vom.,
Ferri Sulph., Saponis pulv.,
Myrrhæ pulv., aa, 1-2 gr.

This formula was recommended by the late Sir Andrew Clark in the treatment of simple constipation.

ALOIN OR APERIENT, No. 2.

Aloin, Ext. Nucis Vom.,
Ferri Sulph., Saponis pulv.,
Myrrhæ pulv., aa, 1-8 gr.

This pill is one quarter the strength of the one mentioned above, but is of the same formula and is recommended by the same authority. It is to be given in cases where "No. 1 is too strong."

ALOIN OR APERIENT, No 3

Aloin, Ext. Nucis Vom.,
Ferri Sulph.,
Ipecac. pulv.,
Myrrhæ pulv.,
Saponis pulv., aa, 1-8 gr.

This pill, the third one of the series, will be found of value, where No. 2 (above) is indicated, provided there is no special weakness of the heart.

ALOIN OR APERIENT, No 4

Aloin, Ext. Nucis Vom.,
Ext. Belladonnae,
Ferri Sulph.,
Myrrhæ pulv.,
Saponis pulv., aa, 1-8 gr.

In cases in which the above formulas appear to act in a more or less irregular manner, and belladonna appears to be indicated, this pill will be found of service.

The above four formulas, which have been graduated to form, as near as possible, a "natural" aperient, were recommended by the late Sir Andrew Clark.

ANTI-DYSPEPSIA (Fothergill)

Strychnina, 1-20 gr
Pulv. Ipecac., 2-3 gr.
Pulv. Piper Nig., 1-2 gr.
Ext. Gentianæ, 1 gr.

Recommended by the late Dr. Fothergill in his article on "Atonic Dyspepsia."

ANTI-MALARIAL (See QUININE COMPOUND).

APHRODISIAC (See OAMIANA AND PHOSPHORUS COMPOUND).

ARSENIOUS ACID, 1-100. 1-60. 1-30 and 1-20 gr.

ASAFETIOA COMP., B. P., 5 grs.

ATROPINE, 1-200 and 1-100 gr.

BLENNOSTASINE, 1, 2, 3 and 5 gr.

An invaluable remedy in influenza and common colds. In hay fever it acts almost as a specific.

BLUE MASS, B. P., 1, 2, 3 and 5 grs.

BLUE MASS, COLOCYNTH AND HYOSCYAMUS.

Massa Hydrarg., 1 gr.
Ext. Hyoscy., 1 gr.
Ext. Colocynth. Co., 3 grs

CALCIUM SULPHIDE, 1-10, 1-4 1-2 and 1 gr.

CALOMEL, 1-20. 1-10. 1-4. 1-2. 1, 2, 3 and 5 grs.

CALOMEL, COLOCYNTH AND HYOSCYAMUS.

Hyd. Subchlor., 1 gr.
Ext. Coloc. Co., 3 grs.
Ext. Hyoscy., 1 gr.

CALOMEL COMP., B. P. (Plummer), 5 grs.

CALOMEL AND OPIUM.

Hyd. Subchlor., 2 grs.
Opil pulv., 1 gr.

CAMPHOR. MONO-BROMATED, 2 and 5 grs.

CANNABIS INOICA EXTRACT, 1-4 and 1-2 gr

CASCARA SACRAOA EXTRACT, 2 and 3 grs.

This extract is prepared in our own laboratory, and can be relied upon. Useful in habitual constipation, dyspepsia, jaundice, and similar affections of the digestive organs.

CATHARTIC COMPOUND, U. S. P. (Purgative.)

Ext. Jalapæ pulv.,
Hyd. Subchlor., aa, 1 gr.
Ext. Coloc. Co. pulv., 1-3 grs.
Cambogiæ pulv., 1-4 gr.

One pill will act as a laxative, and two as a cathartic. Particularly applicable to the early stages of bilious fevers, to hepatitis, jaundice and all those derangements of the alimentary canal, or of the general health, which depend on congestion of the portal circle.

CATHARTIC IMPROVED (See LAXATIVE VEGETABLE).

COEINE, 1-8, 1-4, 1-2, and 1 gr.

COLOCYNTH COMP., B. P., 4 and 5 grs

COLOCYNTH COMP. AND BLUE MASS, 5 grs.

Pil. Coloc. Comp., B. P., 3 grs.
Massa Hydrarg., 2 grs

COLOCYNTH COMP. AND CALOMEL, 5 grs

Ext. Coloc. Co., 4 grs.
Hyd. Subchlor., 1 gr.

COLOCYNTH AND HYOSCYAMUS, B. P., 5 grs.

CORROSIVE SUBLIMATE, 1-30. 1-20. 1-10 gr.

OAMIANA AND PHOSPH. COMP. (APHRODISIAC)

Ext. Turneræ Aphro., 2 grs.
Ext. Nucis Vomicae, 1-3 gr.
Phosphorus, 1-100 gr.

Useful in sexual debility. Dose, 1 or 2.

OICITALIN, 1-60 gr.

OINER (Lady Webster).

Pulv. Aloes Soc., 2 grs.
Pulv. Mastiches, 1-2 gr.
Pulv. Rosæ Gallicæ, 1-2 gr.

One or two pills taken shortly before a meal will usually produce one free evacuation.

ECLECTIC OR PODOPHYLLIN.

Res. Podophylli, 1-8 gr.
Res. Leptand., aa, 1-16 gr.
Res. Juglandis, 1-32 gr.
Res. Cincif.,
Ol. Capsici,

EMMENACOCUE.

Ergotin, 1 gr.
Ext. Helleb. Nig., 1 gr.
Ferri Sulph. Exsic., 1 gr.
Pulv. Aloes Soc., 1 gr.
Ol. Sabinæ, 1-4 gr.

EMMENACOCUE (Mutter)

Ferri Sulph. Exsic., 1-2 grs.
Terebinthina, 1-2 grs.
Aloes Soc., 1-2 gr.

THE READY SOLUBILITY of "McK. & R." Pills is easily proved by placing a quinine pill on the tongue and noticing the rapid dissolution of the gelatine

Complete list of formulas on application

In ordering be careful to specify "McK. & R."

NOTE CHANGES AND ADDITIONS TO THE LIST

“McK. & R.” Capsuled Pills

According to Formulas of the British Pharmacopœia and other Standard Authorities

ERCOTIN, Each pill contains the active principles of 30 grains Ergot of Rye, or 30 minims of the liquid or fluid Extract.	2, 3 and 5 grs.	OPIUM POWD.,	1 gr.	QUININE AND STRYCHNINE. { Quinina Sulphas, 1 gr. } { Strychnina, 1-60 gr. } Dose, 1 or 2 pills.
EUONYMIN, EUONYMIN COMP. { Euonymin, 1 gr. } { Aloin, 1-4 gr. } { Ext. Rhei, 1 gr. } { Ext. Nucis Vom., 1-8 gr. } { Ext. Hyoscyami, 1 gr. }	2 and 3 gr.	PEPSIN, PURE, CONCENTRATED, Each pill equal in digestive properties to 5 grs. Saccharated Pepsin.	1 gr.	QUININE VALERIANATES, 1-2, 1, 2 and 3 grs. In debility, attended with nervous disorder, 1 or 2 pills may be given, two or three times a day.
FERRUCINOUS (Blaud)	3 grs.	PHOSPHORUS, 1-100, 1-50 and 1-30 gr. Contains the full amount of Phosphorus in unoxidised form.		RHUBARB COMP., B. P. 5 grs
FERRUCINOUS (Blaud) { Ferri Sulphas, } { Potassii Carb., }	5 grs.	PHOSPHORUS AND IRON. { Phosphor. Pur., 1-50 gr. } { Ferrum Reduct., 2 grs. }		RHUBARB COMP. AND BLUE MASS. 5 grs. { Pil. Rhei Comp., 3 grs. } { Pil. Hydrarg., 2 grs. }
CUAIAQUIN, 1, 2 and 3 grs. (Guaiaecol Quinine Bisulphonate.) Excellent in malarial fevers, anæmia, cachexia, and as an intestinal disinfectant. Used with much success in the treatment of enlarged glands of the neck and for reducing adenoid growths		PHOSPHORUS, IRON AND QUININE. { Phosphor. Pur., 1-100 gr. } { Ferri Carb. (Vallet), 1 gr. } { Quinina Sulph., 1 gr. }		SALICYLIC ACID, 2 and 5 grs
IODOFORM, 1 gr.		PHOSPHORUS AND NUX VOMICA. { Phosphor. Pur., 1-50 gr. } { Ext. Nucis Vom., 1-4 gr. }		STROPHANTHUS AND IRON. { Pulv. Sem. Strophanthi, 1-4 gr. } { Ferri Sulph., 1-2 gr. } { Potassii Carb., 1-2 gr. }
IRON ARSENATE, 1-8 gr.		PHOSPHORUS, NUX VOMICA AND IRON. { Phosphor. Pur., 1-50 gr. } { Ext. Nucis Vom., 1-4 gr. } { Ferri Carb., 1 gr. }		This pill represents Blaud's formula in combination with strophanthus, and may be given where a ferruginous heart tonic is indicated. Dose, 1 or 2 pills.
IRON CARBONATE, B. P., 5 grs.		PHOSPHORUS AND QUININE. { Phosphor. Pur., 1-50 gr. } { Quinina Sulph., 1 gr. }		STRYCHNINE, 1-200, 1-100, 1-60, 1-50, 1-40 1-30 and 1-20 gr. Dose, according to case, from 1-200 to 1-20 gr.
IRON BY HYOROCEN, 1, 2 and 4 grs.		PHOSPHORUS, QUININE, IRON AND STRYCH. { Phosphorus, 1-50 gr. } { Ferrum Reduct., 2 grs. } { Quinina Sulphas., 1-2 gr. } { Strychnina, 1-60 gr. }		STRYCHNINE SULPHATE, 1-200, 1-100, 1-60, 1-50, 1-40 and 1-30 gr. Dose, 1-200 to 1-30 grain at bed time.
IRON IODOIDE (Blancard) 1 gr.		PHOSPHORUS AND VALER. ZINC. { Phosphor. Pur., 1-50 gr. } { Zinci Valer., 1 gr. }		THYMOL (Thymic Acid) 2 1-2 grs. Used in cases of typhoid fever, pneumonia and pleurisy, and also as a ténifuge. Dose, two 2 1-2 gr. pills every six hours.
IRON AND QUININE CITRATE, 2 grs.		POOOPHYLLIN, 1-8, 1-4 and 1-2 gr.		TONIC (Dr. Aiken) { Quinina Sulph., 1 gr. } { Acid Arseniosum, 1-50 gr. } { Ferrum Reduction, 2-3 gr. } { Strychnina, 1 50 gr. }
IRON, QUININE AND STRYCHNINE. { Ferrum Reductum, } { Quinina Sulph., aa, 1 gr. } { Strychnina, 1-60 gr. }		POOOPHYLLIN COMP. { Res. Podoph., 1-2 gr. } { Ext. Coloc. Co., 2 grs. } { Ext. Hyoscy., 1 gr. }		A valuable general tonic. Dose, 1 pill three times a day.
LAXATIVE, VEGETABLE (Improved Cathartic) { Res. Podoph., } { Ext. Hyoscy., aa, 1-4 gr. } { Ext. Tarax., 1 gr. } { Ext. Coloc. Co. pulv., 1 gr. } { Jalapæ pulv., } { Res. Leptand., aa, 1-2 gr. } { Ol. Menth. Pip., }		PODOPHYLLIN COMP. (Dr. Janeway) { Res. Podophylli, 1-2 gr. } { Aloe Soc., 1 gr. } { Ext. Bellad., } { Ext. Nucis Vomicae, aa, 1-4 gr. }		TONIC-LAXATIVE (Fothergill) { Quinina Sulph., 2-3 gr. } { Strychnina, 1-30 gr. } { Ferrum Reduct., } { Ext. Bellad., aa, 1-4 gr. }
Contains no mercury. An excellent laxative combination.		Dose, 1 or 2 pills		TRIPLEX. { Ext. Aloes, 2 grs. } { Res. Podophylli, 1-4 gr. } { Massa Hydrarg., 1 gr. }
MANCANESE BINOXIDE, 2 grs.		QUININE BROMIOE (Hydrobromate) 1, 2, 3 grs. Unites the alterative effects of bromine with the tonic properties of quinine. Dose 1 to 3 grs.		Valuable where a cathartic is required with a peculiar action on the liver. Dose, 1 to 3 pills.
MERCURY BINIOIOIE, 1-116 gr.		QUININE MURIATE, 1, 2 and 3 grs.		VALERIANATES QUININE, IRON AND STRYCH. { Quin. Val., 1 gr. } { Strych. Val., 1-60 gr. } { Ferri Val., 1 gr. }
MERCURY PROTO-IOOIOIE, 1-20, 1-16, 1-8 1-4 gr. We obtain this salt absolutely pure. The irritation of the stomach so frequently caused by the ordinary salt is no doubt due to impurity, such as red iodide, and is not observed in the use of our proto-iodide.		QUININE AND CAPSICUM. { Quinina Sulph., 2 grs. } { Pulv. Capsici, 1-2 gr. }		Useful in nervous debility. Dose, 1 pill three times a day.
MERCURY WITH CHALK, No. 1 (Hutchinson) { Hydrarg. cum creta, 1 gr. } { Confect. Rosæ, q. s. }		Capsicum is said to assist the action of quinine. Dose, 1 to 3 pills.		WARBURC TINCTURE. Each pill represents 1 fluid drachm of the tincture.
MERCURY WITH CHALK, No. 2 (Hutchinson) { Hydrarg. cum creta, 1 gr. } { Doveri pulv., 1 gr. } { Ext. Gentianæ, q. s. }		QUININE BI-SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs. Bi-Sulphate of Quinine is much more soluble than the sulphate, the latter requiring seven hundred parts of water to dissolve it, while the BI-SULPHATE DISSOLVES IN TEN PARTS.		WARBURC TINCTURE WITHOUT ALOES. Each pill represents 1 fluid drachm of the tincture.
MERCURY WITH CHALK, No. 3 (Hutchinson) { Hydrarg. cum creta, 1 gr. } { Ext. Nucis Vom., 1-4 gr. } { Ferrum Reductum, 2 grs. } { Ext. Gentianæ, q. s. }		QUININE COMP. (Anti-Malarial) { Quinina Sulph., aa, 1 gr. } { Cinchonid. Sulph., 1-40 gr. } { Acid. Arsenios., } { Acid. Carbolic., aa, 1-8 gr. } { Menthol, 1-4 gr. } { Capsici pulv., }		WARBURC TINCTURE WITHOUT ALOES. Each pill represents 2 fluid drachms of the tincture.
This preparation of mercury is the one preferred by Dr. Jonathan Hutchinson.		This pill is largely prescribed in the most severe malarial districts of America, with remarkable results.		ZINC PHOSPHIDE AND EXT. NUX VOMICA { Zinci Phosphidum, 1-to gr. } { Ext. Nucis Vomicae, 1-4 gr. }
MORPHINE MURIATE, 1-8 and 1-4 gr.		QUININE SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs.		Tonic. Useful in palsy, neuralgia and chronic constipation, also in brain diseases. Dose, 1 to 3 pills.
NITRO-GLYCERIN, 1-100 and 1-50 gr.				ZINC VALERIANATES, 1 and 2 grs.
OPIUM AND CAMPHOR. { Opii, 1 gr. } Dose, 1 pill. Camphoræ, 2 grs. }				

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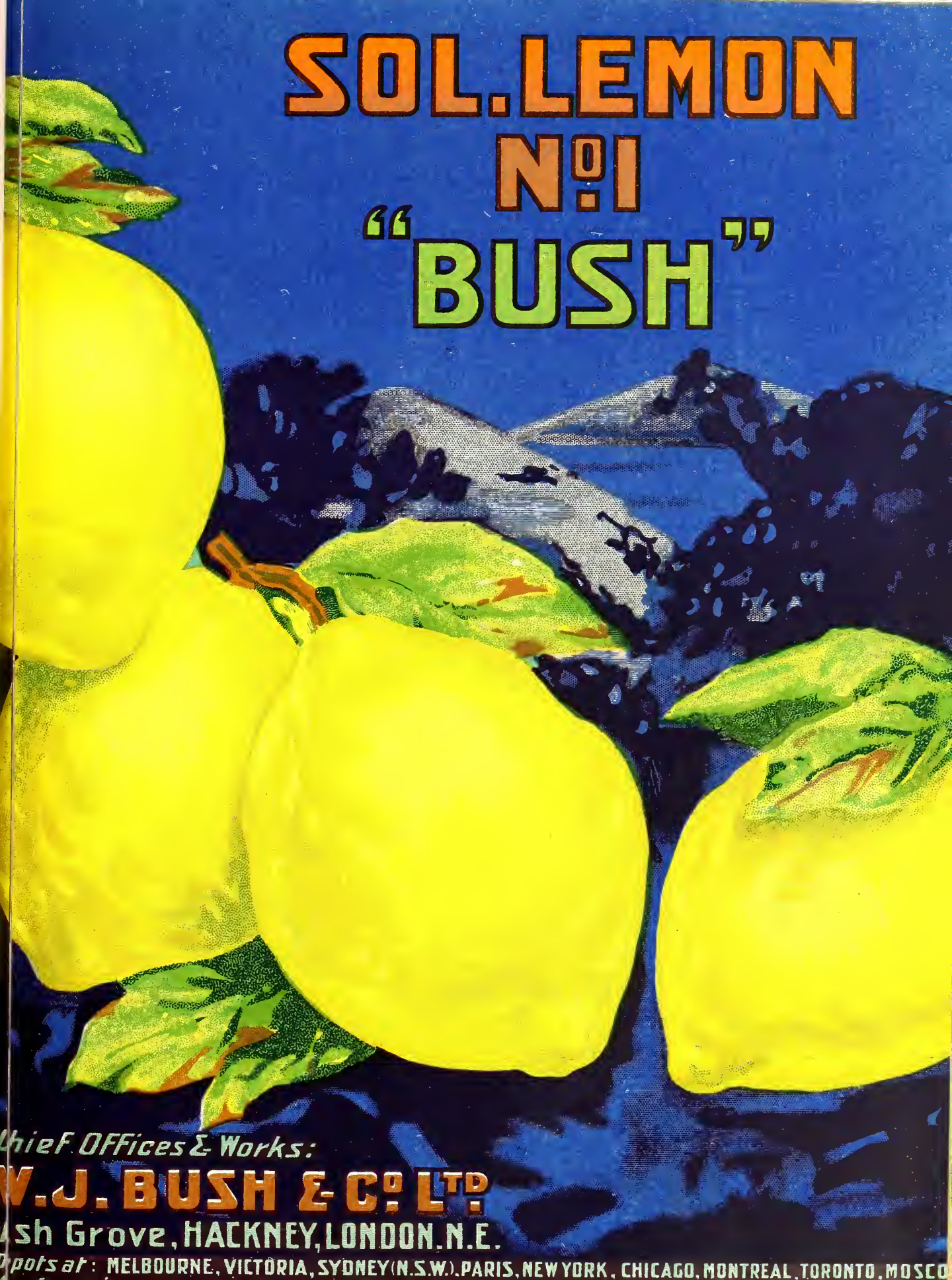


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A vintage advertisement for Sol. Lemon N°1 "Bush". The top half features the product name in large, bold, stylized letters. Below the text is a detailed illustration of several bright yellow lemons with green leaves. In the background, there is a dark, silhouetted landscape with a body of water and a distant mountain range under a blue sky.

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		£5	0	0
Less 5% on £5 parcel -		0	5	0
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RETURN.

		£	s	d.
2 doz.	1/- size -	1	4	0
2 "	1/9 " -	2	2	0
1 "	3/- " -	1	16	0
½ "	4/3 " -	1	5	6
¼ "	7/6 " -	1	2	6
		£7	10	0

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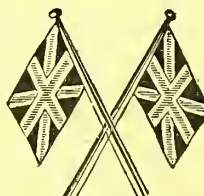
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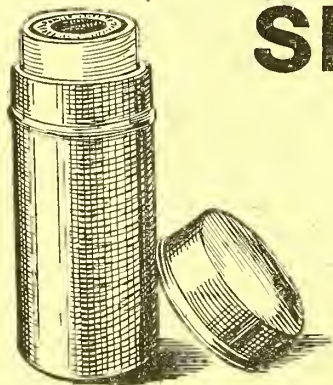
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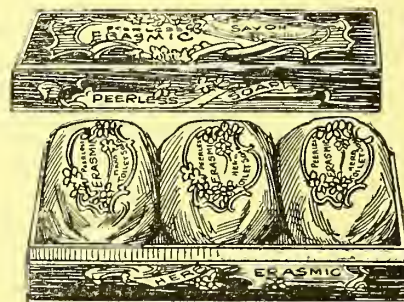


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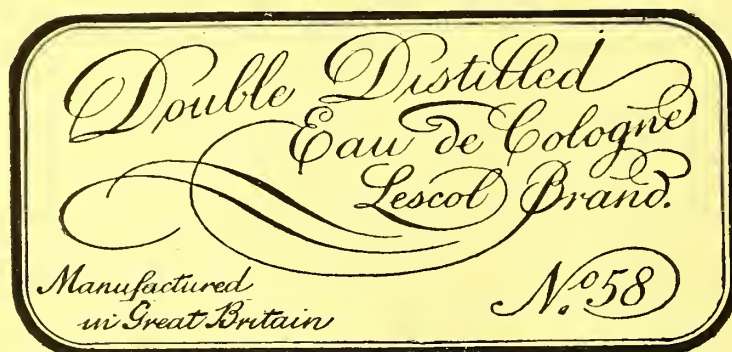
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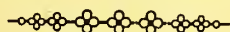
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BRUSSELS, 1910.

MEMBER OF JURY
LONDON, 1912.

GHENT, 1913.

PRINCIPAL AGENCIES OF
E. GUILLEVIC & CO.
19 St. Dunstan's Hill, London, E.C.

Telegraphic Address: "PHLOXIA LONDON."
Telephone Number ... AVENUE 5089.



HUGUES AÎNÉ - - **Grasse, France**

French Essential Oils and Raw Materials for
PERFUMERS, SOAPMAKERS, MANUFACTURING CHEMISTS
AND CONFECTIONERS, &c.

M. NAEF & CO. **Geneva, Switzerland**
(Formerly CHUIT, NAEF & CO.)

Synthetic and Aromatic Chemicals and Specialities for
PERFUMERS, SOAPMAKERS, MANUFACTURING CHEMISTS
AND CONFECTIONERS, &c.

ROBERTY, PERRAULT & CO. - **Paris**
(Formerly L. AUGIER & CO.)

Direct Importers of TONQUIN MUSK, AMBERGRIS, YLANG
YLANG, VETIVERT, SIAM GUM, &c.

Distillers of PATCHOULI, SANDALWOOD, VETIVERT.

F. MARANGOLO & FIGLI **Reggio, Messina, Italy**
BERGAMOT, LEMON, SWEET ORANGE, MANDARINE.

F. AUDEMARD - - - **Nice, France**
Pure Edible OLIVE OILS of the highest grades.

**SYNTHETIC & AROMATIC
CHEMICALS.**

ESSENTIAL OILS.

OTTO OF ROSE.

&c. &c.

**CHAS.
ZIMMERMANN & Co.**

(CHEMICALS), LTD.

**9-10 St. Mary-at-Hill,
LONDON, E.C.**

TELEGRAMS—
Inland: "Acido an, Bilgate, London."
Foreign: "Acidolan, London."

TELEPHONES—
5933, 5934, 5935, 5936 Avenue.

NATURAL FLOWER OILS

ABSOLUTE, LIQUID, CONCRETE (Solid).

POMADES, FLOWER WATER.

SICILIAN OILS

(Lemon, Orange, Bergamot).

&c. &c.

BRITISH

FIRM.

SPECIALITIES

AMYL-SALICYLATE.

BENZYL ACETATE. Sans Chlor'ne.

BROMSTYROL 100 %

METHYL ANTHRANILATE.

MUSK XYLOL 100 % Small Crystals.

MUSK AMBREITE 100 %

NEROLINE (BROMELIA).

TERPINEOL.

CHEIRANTHINE (Carnation and Wallflower base), HONEYSUCKLE, NARCISSUS,
ARTIFICIAL OTTO OF ROSE, ARTIFICIAL VIOLETS

ESSENTIAL OIL BERGAMOT 38 % S. & G. brand.

LEMON S. & G. brand.

ORANGE S. & G. brand.

GERANIUM (French, Algerian, and Bourbon), LAVENDER, NEROLI, ROSEMARY (French
and Spanish), THYME (Spanish).

FRENCH OTTO OF ROSE

ORRIS ROOT CONCRETE.

ORRIS ROOT LIQUID.

ORRIS ROOT FOR SOAP.

ORRIS ROOT RESIN.

MOUSSE DE CHÊNE (Colourless).

MOUSSE DE CHÊNE.

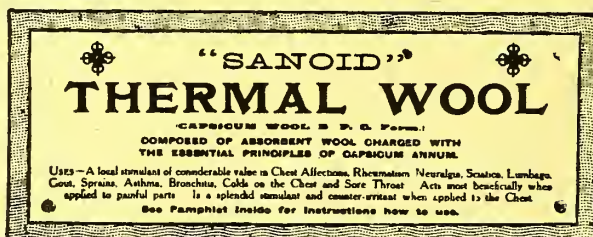
MOUSSE DE CHÊNE RESIN.

EXPORT ORDERS.

We give export orders our very best attention,
and shall be happy to receive inquiries from
Wholesale Houses.

'SANOID' Thermal Wool

A FINE
SELLING
LINE



BEARS
A GOOD
PROFIT

6d. and 1/- Cartons ... 3/9 and 6/6 dozen.
Do., Gauze-covered ... 4/3 „ 7/6 „

1 lb. Rolls ... per lb. 3/9
1 lb. „ ... „ 4/3

Made from the finest quality Cotton Wool.

SPECIAL QUOTATIONS FOR WHOLESALE QUANTITIES.

'SANOID' Boracic Socks



Now is a good time to lay in a stock of these goods. ∴ Should be shown and then they will sell themselves.

3/6 per dozen pairs. Sample on Application.

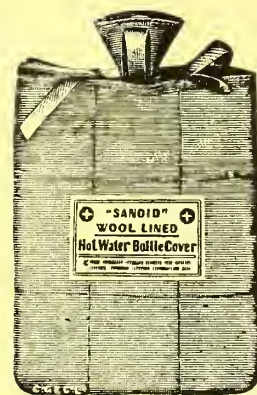
CUXSON, GERRARD & CO. LD

'SANOID' Bottle Cover

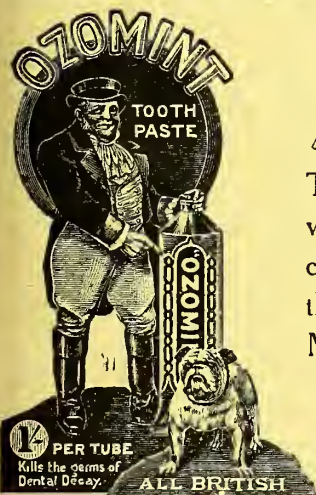
*Wool-lined. Quilted.
Retains the heat. Comfortable.
Wears well.*

In 3 Colours: Pink, Red and Blue.

8×6	10×6	10×8	12×6	12×8	12×10
5/-	5/-	6/-	6/-	6/-	7/6
14×8	14×10	14×12	PER DOZEN		
7/6	9/-	9/-			



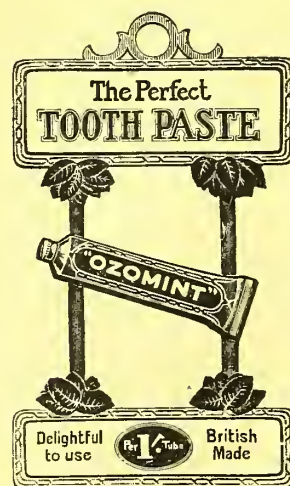
'OZOMINT' Tooth Paste



A new
Tooth Paste
which has
captured
the
Market.



Elegant
Show
Stands
and
Display
Boards.



Price 7/6 per dozen tubes.

Each in Carton.

MANUFACTURERS OF
SURGICAL DRESSINGS, &c.

OLDBURY
AND BIRMINGHAM

SOME GOOD BRITISH LINES.

Essona Brilliantines.



Exquisitely Perfumed in
Assorted Odours.

Handsomely Labelled in
Blue and Gold.

6d. size	...	3/6 doz.
1/- "	...	5/6 "

Essona Solid Brilliantines.



Beautifully
Packed in Square
Gilt Tins with
Blue and Gold
Labels. Not
sticky, like
Petroleum Jelly.
Customers like
it because it is
convenient to use
with the Hair
Brush.

6d. Size, 3/6 doz. 1/- Size (de Luxe) 7/- doz.

Order through your Wholesale House, or direct (5% for Cash with Order) from

ESSONA PERFUMERY CO., WIMBLEDON.

**METH SPIRIT &
SPIRITS OF
WINE**

Apply for Prices to largest makers in U.K.

PRESTON'S LIVERPOOL DISTILLERY CO., L^D

Bankhall Distillery, Sandhills, Liverpool.

Office: 4 INDIA BUILDINGS,
LIVERPOOL.

JULY 29, 1916

THE CHEMIST AND DRUGGIST

51

Sales which
yield

**70% Profit
on Outlay.**



CHARLES MIDGLEY, L^{TD}.

Wholesale and Manufacturing Chemists.

We Provide
Showcards,
Free Samples,
Dainty Coloured
Brochures,
Medical Literature.

TO BRITISH PHARMACISTS

AT HOME AND OVERSEAS.

4 EXCHANGE STREET

(St. Ann's Square),

MANCHESTER.

It is always preferable to run "own name" lines where practicable rather than foster someone else's. Where this principle does not apply, the alternative is to run a brand of which you get a monopoly for your district.

High-class Soaps, like all toilet adjuncts, have a large scope and are distinctly profitable in the handling. Having no special interest in any particular make, many chemists allow business to pass the door. We are Soap Specialists, and our trade arrangements are based on a co-operative plan whereby we sell to one chemist in each district. Thus we make it worth your while to concentrate your energy. Our Medicated Soaps are well known and require no embellishment. Our Benzoinated Superfatted and richly perfumed Toilet Soaps are now offered to Chemists, and, being presented in the French style, they command a good price, whilst their purity and excellence assure repeats and recommendations.

On the following parcel we allow as Bonus in return for your Window or Counter space

2 dozen tabs. of our Celebrated Bathroom Soap Free

This Bathroom Soap is made from one of our very best bases, is splendidly moulded, weight about six ounces, and is finished in a first-class style. We introduced it originally for doctors' own use, for the purpose of demonstrating to medical men the excellence of Midgley's Superfatted Soap. It sells at 6d. per tablet.

SUGGESTED PARCEL.

12 TABLETS SUPERFATTED	COAL TAR	...	4d. TAB.
12	WITCH HAZEL	...	4d. "
24	WHITE ROSE	...	6d. "
18	EMOLLIENT	...	10d. "
18	EAU DE COLOGNE	...	10d. "
12	ROSE LEAF	...	1/-
6	BASIC	...	9d. "
6	ICHTHYOL	...	9d. "
3	ICHTHYOL LANOLINE	...	1/-
9	SULPH. CAMPH. BALS.	...	9d. "
6	PERU	...	9d. "
6	CARBOLIC	...	9d. "
6	EUCALYPTOL	...	6d. "
6	LYSOL	...	6d. "
6	SULPHUR	...	6d. "
3	ALKALINE ICHTHYOL AND SULPH.	...	1/-
3	SULPH. AND SALICYLIC	...	9d. "

Assured Profit, 70%.

N.B.—Any Soap may be exchanged for others of the series if in a particular district the sale is slow.

COUPON

To MIDGLEY'S,
Manchester.

Please send, carriage paid, Toilet and Medicated Soaps as suggested to value of £3 6 8 together with bonus of 2 dozen Bathroom Soap, Showcards, free Sample Tablets and Literature.

We undertake to make window and (or) counter display.

NAME

TOWN

Send us list of your Medicos and we will mail Samples in your name.

SAM^L LAMBERT & CO.,

14 MINCING LANE, LONDON, E.C.

Importers and Exporters.

First hands for all

Estd. 1870.

CRUDE DRUGS & ESSENTIAL OILS.

A few Specialities :—

ARABIC GUMS, CASCARA SAGRADA, ERGOT, CITRIC ACID, COD LIVER OIL, CREAM OF TARTAR, GLYCERIN, HONEYS, MESSINA ESSENCES, OLIVE OIL, PEPPERMINT OIL, QUININE, QUICK-SILVER, RHUBARB, SARSAPARILLA, SHELLAC, TURPENTINE.

Sole Agents for :

Oils : Lemon, Bergamot, Orange ; Terpeneless Oils : Lemon, Bergamot, Orange.—*Fratelli de Pasquale & Co., Messina.*
Bay Rum and Bay Oil.—*Bornn, St. Thomas.*
Essential Oils, Drugs, Chemicals, &c.—*National Aniline & Chemical Co., New York.*

F. M. RUDD,
Bronson,
MICHIGAN,
U.S.A

GENUINE AMERICAN PEPPERMINT OIL

*"Columbia" Natural
"Diamond White"
Re-distilled.*

Finest qualities for Druggists,
Distillers and Confectioners.

Sole Consignees in United Kingdom—

R. W. GREEFF & CO.

Thames House,

Queen St. Place, LONDON, E.C.

O'KELL'S ORIGINAL MONABOUQUET

(First introduced by the late JOSEPH O'KELL).

Registered Trade Mark, "DOUGLAS PIER."

The most popular and best-selling perfume in the market.
Retail Prices ... 1/-, 1/9, 3/6, 6/-, 7/6, 10/6, per Bottle.

ALSO 3d. SAMPLE BOTTLES.

Shippers and Wholesale Buyers supplied on the best terms by
THOMAS WEST & SON, 1187 Chester Road, **MANCHESTER.**
Stretford.

Headquarters for **Photographics**

Chemists should write us for PRICE LIST and full particulars of all Photo requisites.

W. BUTCHER & SONS, Ltd. CAMERA HOUSE, FARRINGTON AV., E.C.

FROM ALL SUNDRY DRUG HOUSES :

2^D MEND-IT 2^D

FOR CHINA WOOD STATUARY MOSAIC WORK BONE FRETWORK

THE WORLD'S STRONGEST ADHESIVE.

FOR GLASS TOYS ORNAMENTS MODELS LEATHER ETC.

AS FIRM AS A ROCK

INVALUABLE IN HOME SCHOOL OFFICE AND WORKSHOP

MENDS EVERYTHING.

1-DOZ. SHOWCASES. MENDIT LTD., BIRMINGHAM.



Flora Macdonald



E. and M. Gunning



Mrs. Siddons

The Soap for Sensitive Skins

No doubt you have lady customers who say they dare not use soap on their faces in extreme weathers, and yet who feel that their skins are not really clean without it. To such as these, and all who are particular in regard to their complexions, you are safe in recommending the use of McClinton's Colleen Soap under all conditions and in all weathers. Made entirely from pure skin-nourishing vegetable oils and plant ash, Colleen Soap cannot irritate or sting even the most sensitive skin, and it is this superlative mildness which has made it the choice of fastidious and dainty women for centuries past. A McClinton customer is always a *satisfied* customer, and it will therefore pay you to always carry a good stock of

McClinton's

**Colleen
 Soap**
 and Toilet Preparations

Remember the profits to you are *above* the average.

Others of McClinton's well-known Toilet Preparations are:—McClinton's Toilet Cream, McClinton's Vanishing Cream, McClinton's Talcum Powder, in tins; McClinton's Tooth Powder, in tins; McClinton's Hibernia Shaving Stick, McClinton's Shaving Cream, in opal jars; McClinton's Colleen and Shiela Perfumes; and McClinton's Colleen Shampoo, wet or dry.

Write to-day for Price List and Trade Terms.

McClinton's, Ltd., Donaghmore, Co. Tyrone, Ireland.

SOLPORT BROTHERS,

(Established 1857),

LIMITED.

184 to 190 Goswell Road, London, E.C.

Telephone : 4363 CENTRAL.

Telegrams: "SOLPORT, BARB, LONDON."

MANUFACTURERS (Wholesale and Export) of

Druggists' Sundries & Toilet Accessories

Corn and Bunion Plasters
 Corn Shields
 Corn Silk
 Bath Gloves and Gauntlets
 Massage Gloves and Gauntlets
 Loofah Gloves
 Bath and Flesh Straps
 Horsehair Friction Gloves
 Horsehair Friction Straps
 "Frictor" Gloves and Straps
 Bath Pads
 Washing Squares
 Bath Mats
 Knitted Cotton Friction Gloves
 Knitted Woollen Friction Gloves
 Sleeping Gloves
 Sleeping Socks
 Loofah Socks
 Hair Socks
 Court Plaster
 Cold-Beater's Skin
 Oiled Silk
 Cutta Percha Tissue
 Respirators
 "Portia" Baby Balances
 Yeo's Inhalers
 Loofahs
 Finger Stalls, Chamois
 Finger Stalls, Silk
 Finger Stalls, Stockingette
 Finger Stalls, Kid

Finger Stalls, Cotton
 Finger Stalls, Poplin
 Finger Stalls, Paroubek's
 "Foldo"
 Finger Stalls, "Auto"
 Finger Stalls, Elastic Thread
 Loofah Sandals
 Mouchesrides
 Sponge Felt
 Impermeable Piline
 Wrist Straps
 Paroubek's Wrist Straps
 Chest Protectors, Scarlet Felt
 Chest Protectors, Grey Felt
 Chest Protectors, Stockingette
 Chest Protectors,
 Chamois-lined
 Chest Protectors, Pine Felt
 Chest Protectors, Furfelt
 Chamois-lined Vests
 Body Belts
 Hot Water Bottle Covers
 Throat Compresses
 Turkish Towels
 Powder Puffs
 Wool Rouge Puffs
 "Snow Queen" Wool Puffs
 Puff Boxes
 Puff Bowls
 Vanity Boxes and Mirrors
 Nail Polishers
 Nail Polishing Stones

Nail Trimmers
 Nail Files
 Tweezers
 Manicure Sticks
 Powder Books
 Face Chamois
 Complexion Gloves
 Eyeshades, Silk
 Eyeshades, Celluloid
 Reading Shades
 Vaccination Shields & Pads
 Nursing Aprons
 Filter Bags
 Sponge Bags
 Sponge Wraps
 Bathing Caps
 Toilet Holdalls
 Safety Pins
 Combs and Brushes
 Toothpicks
 Caustic Pencils
 Indiarubber Sponges
 Enemas
 Chamois Leathers
 Sponge Baskets
 Shaving Brushes
 Tooth Brushes
 Nail Brushes
 Hair Brushes
 Throat Brushes
 Dr. Dale's Dentos

EXPORT INQUIRIES are solicited for the above goods, in which we specialise.

MOST CAREFUL ATTENTION IS GIVEN TO THE EXECUTION OF FOREIGN AND COLONIAL INDENTS.

Miss
Shirley Kellogg.

Photo:
Arbuthnot.



BEAUTY IN EXCELSIS

Wherever Beauty and a smart youthful appearance are appreciated, the preparations of Edwards' "Harlene" Co. hold premier position in public estimation.

For Hair Health and Beauty.—"Harlene Hair Drill" is required as the ideal scientific method, holding a clientele of millions of British subjects.

For the Complexion.—"Astine" Vanishing Cream—a new note in exquisite Beauty Culture—stands alone, Britain's most beautiful women declaring it Ideal.

For the Complete Overcoming of Grey Hair.—"Astol"—not a Dye or Stain—is recognised as the only true colour restorative.

Then there are also "CREMEX" SHAMPOO POWDER, "ASTINOL" AROMATIC FLUID (Pine Baths at Home), "ASTINE" SHAVING STICK, "ASTINE" SOAP, etc.

Watch the Great Free Gift Advertising Campaign that brings the flock of customers to your shop.

For particulars, advertising literature, &c.,

EDWARDS' HARLENE Ltd., 20, 22, 24 & 26 Lamb's Conduit St., LONDON, W.C.

A powerful antiseptic and deodorant.

PETAL DUST REGD.

The Great Floral Air Purifier,
and the sweetest & most lasting
of all Natural Flower Perfumes

*As supplied to the HOSPITALS and HOSPITAL SHIPS, and
the SERBIAN RED CROSS SALONIQUE.*

USED BY HER MAJESTY QUEEN ALEXANDRA.

AWARDS.

Gold Medal,
1890.

Gold Medal,
Turin
Exhibition,
1911.

Highest
Awards
wherever
Exhibited.



AWARDS.

Two
Gold Medals
Awarded
Queensland
Exhibition
1897.

Bronze
Medal,
1888.

Gold Medal,
1891.

Commands the largest sale of any Dried Perfume in the World.

UNIQUE IN ITS COMBINATION, IT IS
THE FAVOURITE OF ALL CLASSES.

Once shown, creates its own Demand.

Retails in England, in packets 3d. and 6d. each.

A supply of attractive Advertising Matter will be sent on request.

For orders of five gross and upwards of each size, customer's name and address can be printed at foot of packets, also on circulars.

SOLE PROPRIETORS—

THE ROSMARINE MANUFACTURING COY. LONDON, S.E., ENGLAND.

"Newbery's"
 FRANCIS NEWBERY & SONS LTD.

PATRIOTIC TOOTH POWDERS

BRITISH

'ROYAL STANDARD'	}	FINEST PINK CARBOLIC
'UNION JACK' - - -		
'ENTENTE' - - -	-	FINEST WHITE CARBOLIC
'WHITE ENSIGN' -	-	A NEW HYGIENIC DENTIFRICE

(Ready in August)

Showcard and Unique Advertising Matter with Gross orders.

SAMPLES FREE on Application. 24/- and 36/- per Gross Net.

WAR & ADVANCED PRICES.

No one has a desire to buy from the Central Powers. Advanced prices will, therefore, probably be permanent; but Chemists are a far-seeing body, and cannot do wrong by laying in a small stock of NON-PERISHABLE GOODS such as

HAIR BRUSHES	SAFETY RAZORS
NAIL BRUSHES	RAZOR STROPS
SHAVING BRUSHES	MIRRORS, GLASS & METAL
TOOTH BRUSHES	SPONGES, HONEYCOMB AND
TOILET ROLLS	TURKEY, etc. etc.

Chemists wanting Soothers, Enemas or Hygienic Feeding Bottles are invited to send their orders to us.

FRANCIS NEWBERY & SONS, LTD.

DRUGGISTS' SUNDRIESMEN,

27 CHARTERHOUSE SQUARE, LONDON, E.C.

INGRAM'S WHIRLING SPRAY

FITTED WITH RAINE'S
PATENT VULCANITE MOUNT

(Patent No. 14433/15)

For producing by single pressure of the Bulb two sprays that operate in opposite directions.



CONSTRUCTED
UPON THE
LATEST
SCIENTIFIC
PRINCIPLES

Made of High-Grade
Quality Rubber.

Prices obtainable from
all Wholesale Houses.

MANUFACTURERS:—

INGRAM'S—LONDON

Now!

is the time to get in a good supply of Anzora Cream; don't wait till after the war. There's a big and steadily increasing demand for it *NOW*, and you will do well to share in the business. Anzora is a *real good seller*; it will control even the most unruly head of hair, and can be recommended for the tousle-headed schoolboy, the smart young soldier, or the elderly man who wishes to make the most of his scanty locks. Your profit margin:—

TRADE TERMS:
11/6 per doz. Retailed at **18/-**
19/6 " " **30/-**

Showcards and Cut-outs sent on request.

ANZORA PERFUMERY CO.,
32/34 WILLESDEN LANE, LONDON, N.W.

ANZORA
HAIR CREAM

Don't stock substitutes

SAPONINE

(SOLUBLE),

MANUFACTURED BY

C. W. FIELD, LTD.,

Cambrian Mills, LIVERPOOL.

Special Terms to Wholesalers and large Consumers

HONEY! HONEY!

"JOYBELLS" HONEY.

The choicest and most delicious honey procurable. Screw-top Glass Jars, 9s. 9d. and 5s. 9d. per doz.

"JOYBELLS" HONEY. Red Earthenware Pots, 9s. 3d. and 5s. 3d. per doz.; in Bulk, 8d. per lb. Tins charged and returnable.

The Institute of Hygiene state: "We are satisfied that 'Joybells' Honey is a genuine product, possesses the distinctive flavour imparted to bee honey, and is a most pleasant and wholesome article for general table use."

"SUMMERLAND" HONEY.

Equals that usually sold as Finest Clover Honey. Screw-top Glass Jars, 8s. 9d. and 5s. 6d. per doz. In Bulk, 7½d. per lb.

"SWEET FLOWER BELL" HONEY.

Fine Quality. Clean Flavour. Tie-Over Red Earthenware Pots, 7s. 9d. and 4s. 9d. per doz. In Bulk, 6½d. per lb.

BEESWAX. Choice quality, 1s. 8d. per lb.; 1-oz. Moulds, 1s 6d. per doz.

Carriage paid anywhere in England on orders of £2 value. Samples 3d.

STANDARD HEALTH FOOD COMPANY

(With which is incorporated The Berkshire Honey Co.)
Honey Specialists. READING, BERKS.

Safety

BLADES & CASES

Razors

BRITISH MADE

WRITE FOR NEW CATALOGUE. Over 20 Patterns.

'IT'S ALL IN THE EDGE'

SAFETY RAZOR BLADES RE-SHARPENED
ANY STYLE

William P. Kelland,

36 & 37 CAMOMILE ST., LONDON, E.C.

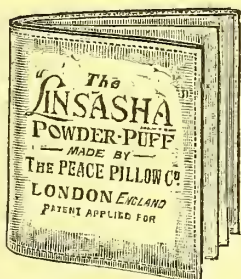
Provincial Offices and Showrooms:

LIVERPOOL . . E. H. HAYWARD, 38 Church Street.
BIRMINGHAM . . E. H. JONES, 36 Cannon Street.
GLASGOW . I. S. ESTERSON - 52 St. Enoch Square.

P.S.—Send Blades to the nearest depot.

6d. PER DOZEN

Returned, post free, same day.



A Combination.

**TOILET PUFF FILLED WITH
POWDER AND FACE
LEATHER INTERLEAVED**

THE NEWEST THING
IN TOILET ARTICLES.

DAINTY — ATTRACTIVE — PROFITABLE.

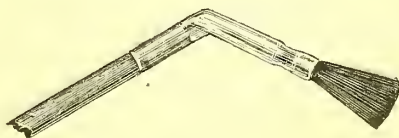
Stocked by all the leading wholesale houses.

4/6 per doz.

Showcard for each three dozen.

MADE BY
THE PEACE PILLOW CO.
17 Manchester Avenue, London, E.C.

THROAT BRUSHES



Bent or Straight.

**Excellent quality &
in full stock. Look
— at the price. —**

From 10/- per gross.

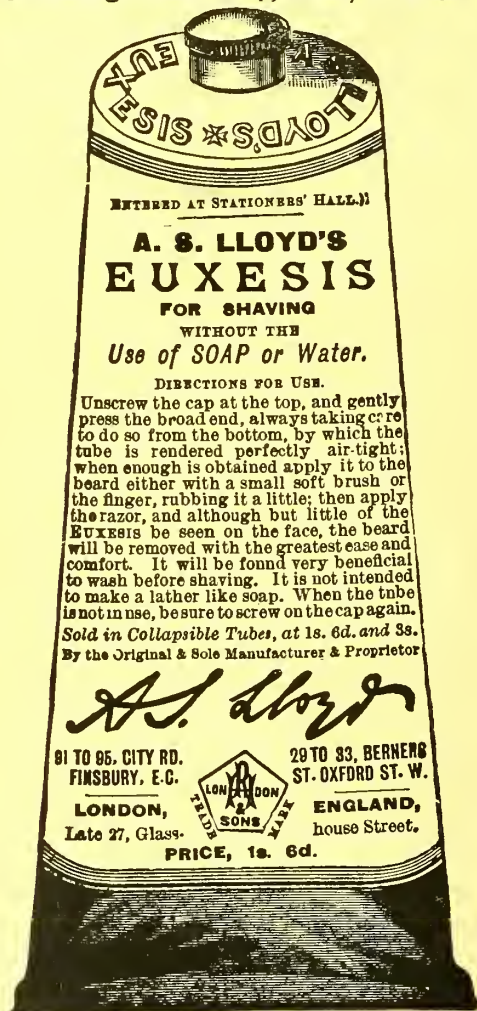
Wholesale and Export only.

H. A. WANKLYN,
17 Manchester Avenue, London, E.C.

A. S. LLOYD'S EUXESIS

(THE GENUINE.)

For Shaving without Soap, Water, or Brush.



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY, and may be obtained at either of our Warehouses at the following prices:

10/- per dozen; 9/9 by the 6 dozen.
Retails at 1/6 the Tube; 3/- size to order.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as Illustration.

Proprietors: **R. HOVENDEN & SONS, LTD.,**
LONDON: 29-33 Berners Street, W.; and 89-95 City Road, E.C.

8th SEASON.

The "MILNER" STRAW HAT CLEANER



Sells well everywhere,
2d.

It is easily used and gives complete satisfaction.

6 doz. 7/- net.
12 „ 13/- „
With specimen hat or
6 packets instead.
Carriage Paid.

2 gross, 2½ % 5 gross 5 %
10 gross, 7½ %
13 to doz. for cash with order.

RAILOX for NITS

Per Packet, 2d. and 6d.

A NEW INVENTION. USED DRY.
Wonderfully Effective. Non-poisonous.
Cannot be seen on the hair.

Specialty suitable for export; cannot break, melt, or lose its strength.



3 doz. 4/-, 6 doz. 7/-, 12 doz. 13/- net,
6d. size 4/- per doz.

ATTRACTIVE ADVERTISING MATTER

includes a Model Kennel, or 6 packets instead. Carriage paid. 13 to doz. for cash with order.

Reg. Trade Mark.

Discount on assorted orders, Railox and Milner Cleaner,
20/-, 2½ % £3, 5 % £7, 7½ %.

RAILOX DOES NOT IRRITATE.

RAILOX SOLDIERS' WALLET,

A CLEAN, HANDY AND EFFECTIVE

Lice Killer

6d. each, 4/- doz. Carriage paid.

13 to dozen for cash with order. With 6 dozen cash orders we supply a handwritten window slip.

Please give size required.

Extracts from recent opinions from the Front.

"Railox is the real stuff." "Send 2 packets Railox, found it very effective. 1/- enclosed." Later: "Send 5 more packets Railox, 2/6 enclosed."

Driver P—.

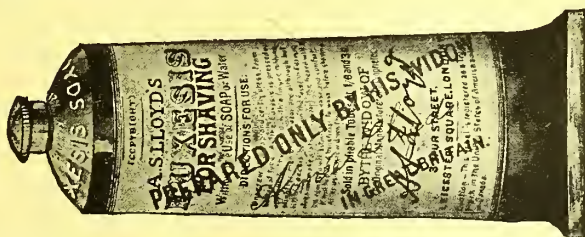
MILNER'S CHEMICAL CO., LIVERPOOL.

A. S. LLOYD'S EUXESIS

For Shaving
without
Soap, Water,
or Brush.

CAUTION to the TRADE

Labels on the genuine **EUXESIS** not only bear signature of A. S. Lloyd in Black Ink, but also "Prepared only by his Widow and signature of 'Aimee Lloyd'" in **RED**.



Sole Manufacturers and Proprietors :

AIMÉE LLOYD & Co.,

23 PANTON STREET
(Formerly named SPUR STREET),

HAYMARKET, LONDON, S.W.

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

**Laurence Pountney Lane,
City, E.C.
A.D. 1820.**

**Devon Wharf,
Mile End, E.
A.D. 1905.**

**Devon Wharf and Bell
Wharf, Mile End, E.
A.D. 1911.**

Field's Select Preparations.

MESSRS. C. R. HARKER, STAGG & MORGAN, LIMITED, wish to remind pharmacists that for many years they have had the sole right to manufacture Field's well-known and highly esteemed pharmaceutical preparations. Being made with selected drugs and by the original processes improved on modern lines, these preparations well deserve their high reputation and are recommended as the finest that can be manufactured.

**Inf. Gent. Co. Conc. Field's
Inf. Senegæ Conc., Field's**

**Syrup Ficorum Co., Field's
Liquor Sennæ Dulc., Field's, &c.**

SPECIAL PRICE LIST ON APPLICATION.

The H.S.M. Alcohol Recovery Still

The best and most convenient apparatus for the recovery of spirit from Tincture Marcs, Essence Residues, &c. Recovers the whole of the spirit at full strength. Now used by all the leading Wholesale Drug Houses and Mineral Water Essence Makers, &c.

The apparatus is made in several sizes suitable for either Retail Chemists, Wholesale Druggists, or the largest manufacturers. Saves its cost in a few months. Booklet and full particulars on application.

We are Special Manufacturers of
**HAIR DYES (Laurence's)
STANDARDISED GALENICALS
AMYLIC ALCOHOL (for Milk Analysis)
BUTYRIC ETHER
HYDRO YANIC ACID, B.P.
COD LIVER OIL EMULSION
PETROLEUM EMULSION
SPIRIT OF SWEET NITRE
DURAPEDE (for the Feet)
AROMATIC SPIRIT OF AMMONIA
CASCARA PREPARATIONS
TEREBENE
CONCENTRATED LIQUORS FOR
TINCTURES, INFUSIONS & SYRUPS
MERCURIAL OINTMENT
NITROUS ELIXIR
BEEF AND MALT WINE
LIQUID ANNATTO
VITALACTINE (the ideal tonic casein
food—Sanatogen substitute)
ARKOL (a special petroleum laxative
oil of the highest purity)
ARKOLAX (a pleasantly flavoured
laxative confection)
BUTTER COLOUR
PHYSIOLOGICALLY
STANDARDISED PREPARATIONS**

AN ALL-BRITISH DISINFECTANT.

LYSOL



HARKER'S

Of high germicidal efficiency for Surgical and general uses. Forms a clear solution with water, is non-corrosive and far less poisonous than carbolic acid.

PRICES.

4 oz. each.	8 oz. each.	16 oz. each.	32 oz. each.	Bots. 1 gal. Tins.
Retail 7d.	1 -	1/9	3/-	11/- each
doz.	doz.	doz.	doz.	
Trade 4 6	7/6	12/6	22/-	7/- .. net

DERMOLINE

Glycerine Substitute.

TWO NEW HAIR PREPARATIONS ARE

"Butilox" Hair Tonic

for strengthening the Hair, stimulating its growth, and rendering it soft, supple and lustrous, AND

"Butilox" Hair Renovator

for preventing greyness, and gradually restoring the colour of the Hair.

LITERATURE AND PRICES ON APPLICATION.

We are Special Manufacturers of
**CHEMICAL SYRUPS
ESSENCES AND COLOURS FOR
CONFECTIONERY
FRUIT ESSENCES
MILLED OINTMENTS
POWDERS (Ground in our own Mills)
FIELD'S PERFECTED SYRUP
OF FIGS
VETERINARY SPICES
COMPOUND LIQUORICE POWDER
GLYCERINE SUPPOSITORIES
(Special torpedo shape)
GELATINE-COATED HORSE-BALLS
CASCARLAX (a palatable and active
fluid Cascara)
LAURENCE'S HAIR DYES. The
best and most reliable.
&c. &c.**

Our Illustrated List of Packed Specialties,

Pharmaceutical and Toilet Preparations, put up for retail sale with customer's name and address, we shall be pleased to forward on application.

C. R. HARKER, STAGG & MORGAN, LTD.

OUR TRADE MARK.



*Wholesale and Export Druggists,
Distillers of Essential Oils,*

**DEVON WHARF
and
BELL WHARF,**

*Manufacturing and
Analytical Chemists,*

**Emmott Street,
MILE END,
LONDON, E.**

Telegraphic and Cable Address:
"EDULCINE LONDON."

Telephone Nos.:
215 EAST. 1025 EAST.

Codes:
A B C, 5th EDITION, AND PRIVATE.

Laurence's HAIR DYES

(ONE SOLUTION)

ARE STILL THE BEST AND MOST RELIABLE IN THE WORLD.



Facsimile of Package.

—and, undisturbed by the abnormal conditions prevailing, continue their successful career of increasing popularity and expanding business. Especially gratifying has been the demand from the Colonies and allied and neutral countries for a preparation to replace that of enemy origin unobtainable since the War. Laurence's Hair Dyes have responded to the call and stepped into the breach. Our claim for them of "once used, always

used" has so far been fully upheld, and we do not fear the future.

Particulars of our popular bonus terms, P. A. T. A. prices, etc., will be found below.

Purchasers of not less than Six dozen bottles, which may be assorted as 'o sizes and co'ours, in addition to our Bonus of eight bottles, will receive free of charge materials for creating a striking and attractive window display.

The net profit obtainable by the sale of six dozen bottles and bonus (1/6 size) is £3 8s. 8d.

Prices and profits protected by P. A. T. A.



Facsimile of Showcard.

Size.	Minimum retail.	Minimum wholesale.		SPECIAL BONUS.
1/-	1/-	7/6	} per doz. less 5% discount.	Buyers of 3 doz. bottles receive 3 bottles gratis (may be assorted any size).
1/6	1/6	9/-		Do. 6 doz. do. 8 bottles gratis.
2/6	2/3	15/-		Do. 12 doz. do. 18 bottles gratis.
3/6	3/3	21/-		Equivalent in the case of the size in most general demand—viz., 1/6 size, to 4/6, 12/- and 27/- respectively.

You cannot do better than to let us put a window display order in hand for you. Please ask at the same time for full particulars of the Prizes we are offering for the best Displays made during the year.

Sole Proprietors:

C. R. HARKER, STAGG & MORGAN

(Limited),

DEVON WHARF, Emmott St., Mile End, LONDON, E.



"DULCIFLOR"



Perfumery OTTOS

*An appreciation from a
practical Perfumer.*

June 4th.1916.

It was my mistake in ordering.....
I should have stated "DULCIFLOR": any-
how, you have supplied me with the right
stuff, and I have no hesitation in saying
they make the finest perfumes I have come
across.

(The original letter may be inspected at our office)

For samples & particulars, apply to

Telephone-
4833 HOP
(3 LINES)

STEVENSON & HOWELL, LTD
STANDARD WORKS. SOUTHWARK STREET,
LONDON.

Telegrams-
"DISTILLER-
BOROH,
LONDON"



"PERFECT" SOLUBLE ESSENCE OF LEMONS

owes its unrivalled position to its
inherent purity & unvarying quality

IT IS NOT "FORTIFIED"
OR "IMPROVED" WITH
LIMES, TERPENELESS OR
SESQUITERPENELESS
OILS, OR ANY OTHER
ADULTERANT, BUT IS
GUARANTEED TO BE
PREPARED SOLELY FROM
THE FINEST SICILIAN
LEMONS.

Stevenson & Howell Ltd.
SOUTHWARK STREET, LONDON, S.E.

TELEGRAMS:
"DISTILLER BORO. LONDON."
(2 WORDS ONLY)

TELEPHONE:
HOP 4833 (3 LINES).

Sparkling "ORANA" (TRADE MARK) (ORANGE SQUASH) A DELICIOUS FRUIT BEVERAGE

Prepared entirely from selected oranges

Drinks exactly like fresh orange
juice squeezed on to sugar.



MADE ONLY FROM

STEVENSON & HOWELL'S
RED BALL BRAND

PERFECT SOLUBLE ESSENCE OF SWEET ORANGES.

SAMPLE AND FULL PARTICULARS ON APPLICATION.

STEVENSON & HOWELL, Ltd.,
STANDARD WORKS,
SOUTHWARK, LONDON.



OUR NEW PREMISES AT ESSEX ROAD, LONDON, N.

CARNEGIE BROTHERS,

227-229 ESSEX ROAD, LONDON, N.

Telegrams : CARNEBROS, LONDON.
(A B C Code, 5th Edition.)

Telephone : DALSTON 3560
(Two lines.)

CONTRACTORS TO H. M. GOVERNMENT.

Surgical Dressings.

*WE HAVE FULL STOCKS, AND
CAN GIVE IMMEDIATE DELIVERY
OF THE FOLLOWING LINES :*

ABSORBENT GAUZES

„ Gauze Tissue

„ Wools

„ Lints

(Plain & Medicated)

Grey Carded Wool

Wood Wool Wadding

BANDAGES :

Open Wove

Crêpe

Domette

Flannel

Crinoline

Plaster of Paris

Jute Tow.

Peat Moss.

Jaconets.

Batistes.

Oiled Silk.

Oiled Cotton.

Hospital Sheeting.

Gutta Percha Tissue.

PACKED TO SUIT CUSTOMERS' REQUIREMENTS.
ENGLISH OR METRIC WEIGHTS AND MEASURES.

WHOLESALE AND EXPORT ONLY.

Drugs and Chemicals.

INQUIRIES INVITED FOR

Acetanilide	Leptandrin
Acid Acetyl-Salicylic	Lithium Salts
„ Benzoic	Lycopodium
„ Chrysophanic	Menthol
„ Salicylic	Mercurials
Aloin	Methyl Salicylate
Amidopyrin	Methyl Sulphonal
Araroba	Phenacetine
Atropine	Phenazone
Barbitone	Phenolphthalein
Bismuth	Pilocarpine
Bromides	Podophyllin
Caffeine	Quinine
Camphor	Resorcine
Chloral Hydrate	Salol
Chloroform	Santonine
Emetine	Scammony Resin
Eserine	Sodium Benzoate
Extract of Male Fern	Strychnine
Guaiacol	Sulphonal
Hexamine	Theobromine
Hydroquinone	Thymol
Iodine	Veratrine

etc. etc.

WHOLESALE AND EXPORT ONLY.

CARNEGIE BROS. have installed new and up-to-date machinery for the production of Surgical Bandages and Gauzes, and are now in a position to offer Buyers of wholesale quantities the most advantageous terms.

Every care is taken in the handling of the materials, and the whole of the work is carried out under ideal conditions.

Samples & Prices may be had on application

CARNEGIE BROS., 227/229 Essex Rd., LONDON, N.

A New Eau de Cologne

“1916”



WE have pleasure in drawing the attention of Pharmacists to this new brand of Eau de Cologne. We consider it one of the most attractively got up on the market. The illustrations are a facsimile of the label, black and gold on blue paper, and a photographic reproduction of the finished article. Each bottle has a gold gilt cork screw attached by a silk ribbon, and is wrapped in a circular stating the uses of “1916.”

We are confident “1916” will prove eminently successful. It should be stocked by all Chemists who wish to handle a real High-class British Eau de Cologne. Customers may have a slip label on the back of the bottles with name and address as selling agents.

On the P.A.T.A.

Sample Free on Application.

PRICES:

	2 oz.	4 oz.	8 oz.	
Retail	1/3	2/6	4/6	each.
Wholesale	10/6	19/6	34/-	doz.

Less 5% to account.

Show Cards Free

Southall Bros. & Barclay, Ltd.,

PERFUME LABORATORIES,
BIRMINGHAM.



VITAFER

THE ALL-BRITISH TONIC FOOD

On the 1st of JULY the
following Prices came into force:

Retail - 1/6 2/6 4/6 7/6 each.

Wholesale 12/- 20/- 36/- 60/- doz. less 5%

New Public Press Campaign.

A new Advertising Scheme for VITAFER has been inaugurated, specially large spaces were filled during the month of July, thus synchronising with the advance in prices.

New Window Shows.

Those who purchase VITAFER to the amount of

£2 10 0	obtain a bonus of the value of 6/- at wholesale prices,
£5 0 0	„ „ „ „ 16/- „ „
£10 0 0	„ „ „ „ 36/- „ „

¶ We commend these shows to Pharmacists as the handsome bonuses on the larger quantities bring the rate of profit on VITAFER to practically the same as it has been in the past. Full particulars as to conditions, etc., on application.

New supplies of Show Cards and other printed matter bearing the new prices will be forwarded on application.

Those Pharmacists who have VITAFER in stock bearing the old retail prices may obtain slips for affixing to the packages giving the new prices on informing us how many of each size they require.

Southall Bros. & Barclay, Ltd., Birmingham

JAPANESE INSECT POWDER. UNRIVALLED IN DESTROYING INSECTS.



MUHAK The pioneer of Insect Powder.

REGISTERED
TRADE
MARK.



This Registered
Trade Mark
appears on every
packet.

KA-KILLER Sticks for use in Tropical Countries.

MUHAK Powder and KA-KILLER Sticks cannot be surpassed as Insect destroyers and are now well known and largely used throughout the world.

THE EICHIRO INSECTICIDE PRODUCING & MANUFACTURING Co. were the first firm to plant the Insect Flower in Japan, and by careful cultivation and scientific investigation succeeded in preparing MUHAK Powder and KA-KILLER Sticks from the Flower.

TESTIMONIALS and MEDALS awarded to The Eichiro Insecticide Producing and Manufacturing Co.

The Mikado of Japan has graciously conferred the highest award in Japanese industrial circles, The Decoration with Green Cordon, in connection with the cultivation of these products and our right of production.

H.I.H. Prince Fushimi, The President of the Japanese Agricultural Society, has conferred upon us the Green White Cordon in recognition of the superior quality of MUHAK and KA-KILLER.

The Governor of Wakayama Prefecture has conferred upon us a Certificate of Merit for the cultivation and approval for export of our products.

Over One Hundred Medals and Certificates from Japanese and International Exhibitions have been awarded for excellence of MUHAK and KA-KILLER.

SAMPLES CAN BE OBTAINED IN LONDON.

Special Terms for Export in bulk. In cases of 100 lbs., tins of 25 lbs. & 1 lb. each, etc., etc.

For particulars as to Prices, Samples and Terms, address:

THE EICHIRO INSECTICIDE PRODUCING & MANUFACTURING Co.,
P.O. Box No. 1,
MINOSHIMA, WAKAYAMA-KEN, JAPAN.

Agents wanted where not represented.

The Pioneer of Insect Powder.

MUHAK

Patent No. 39568.

POWDER.

In small tins artistically decorated,
specially adapted for the retail trade.

It will kill Cockroaches, Fleas and all insects and is
guaranteed to kill insects in all plants and vegetables
without injury to the most delicate plant.

ONLY
DESTROYS
INSECTS.



HARMLESS
to
PLANTS,
DOGS,
CATS,
and all
Domestic
Pets.

KA-KILLER

Patent No. 27291.

STICKS.

The efficacious Insecticide; when burnt in a room with
all windows and doors closed will kill any mosquitoes,
flies, cockroaches, etc. Specially recommended for use in
tropical countries for destruction of the malarial mosquitoes.

Directions for use on each Package.

SAMPLES AND TERMS ON APPLICATION.



LANOLINES

Manufacturers

HILLCREST OIL CO (BRADFORD) LTD Clayton, Manchester.

CABLES "HILLCREST MANCHESTER."

TRADE



MARK

MANUFACTURERS

AND

REFINERS

of

"SILVERCREST"

LANOLINES

ADEPS LANÆ

HYDROUS ANHYDROUS

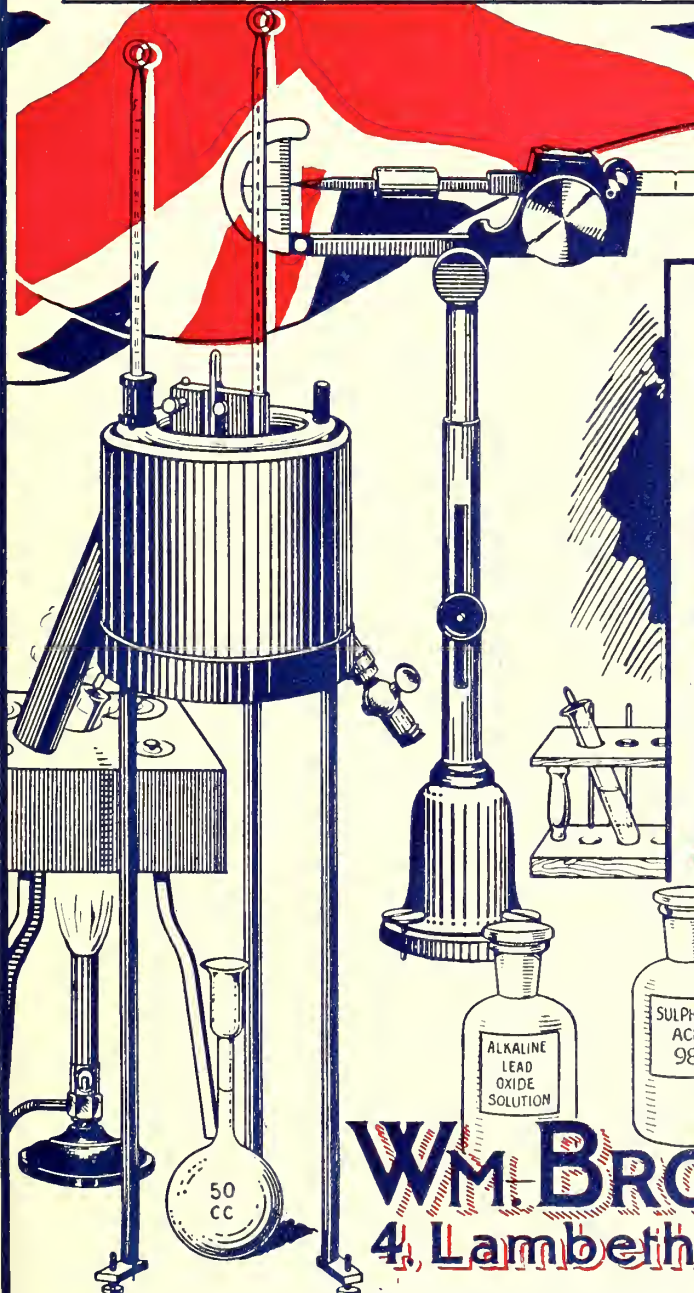
Hillcrest Oil Co (BRADFORD) Ltd.

CLAYTON, MANCHESTER

WORKS: BRADFORD & MANCHESTER

RUSSIAN Liquid PARAFFIN

B.P. 1914
BRITISH MADE, TESTED AND GUARANTEED



IN Liquid Paraffin, as in all therapeutic agents, **QUALITY** is the most necessary characteristic. An impure oil injures the reputation of the pharmacist who retails it. Make sure, therefore, that *you* are purchasing the best.

Buy from us. You can rely on the *Russian* Liquid Paraffin that we supply. Its quality is right, its viscosity is right, and it answers in letter and spirit all the B.P. requirements. We test it, and we know. All quantities from one gallon upwards supplied.

SAMPLES AND PRICES
ON APPLICATION.

WM. BROWNING & Co.
4, Lambeth Palace Rd., S.E.
Telephone: HOP 3217 Telegrams: "SEMPROLIN LAMB. LONDON"



It will pay to stock "Carmex."

MOTHERS everywhere are reading the above "Carmex" advertisements now appearing in the leading journals appealing to women.

Are you ready to supply the demand and secure the profits which this publicity is bound to create?

"CARMEX" is the new remedy for Infants' Ailments which, once it has been tried, will sell again on merit alone.

Link up your pharmacy with our advertising by displaying "Carmex" on the counter, in the window and the show case.

P.A.T.A.
1/3

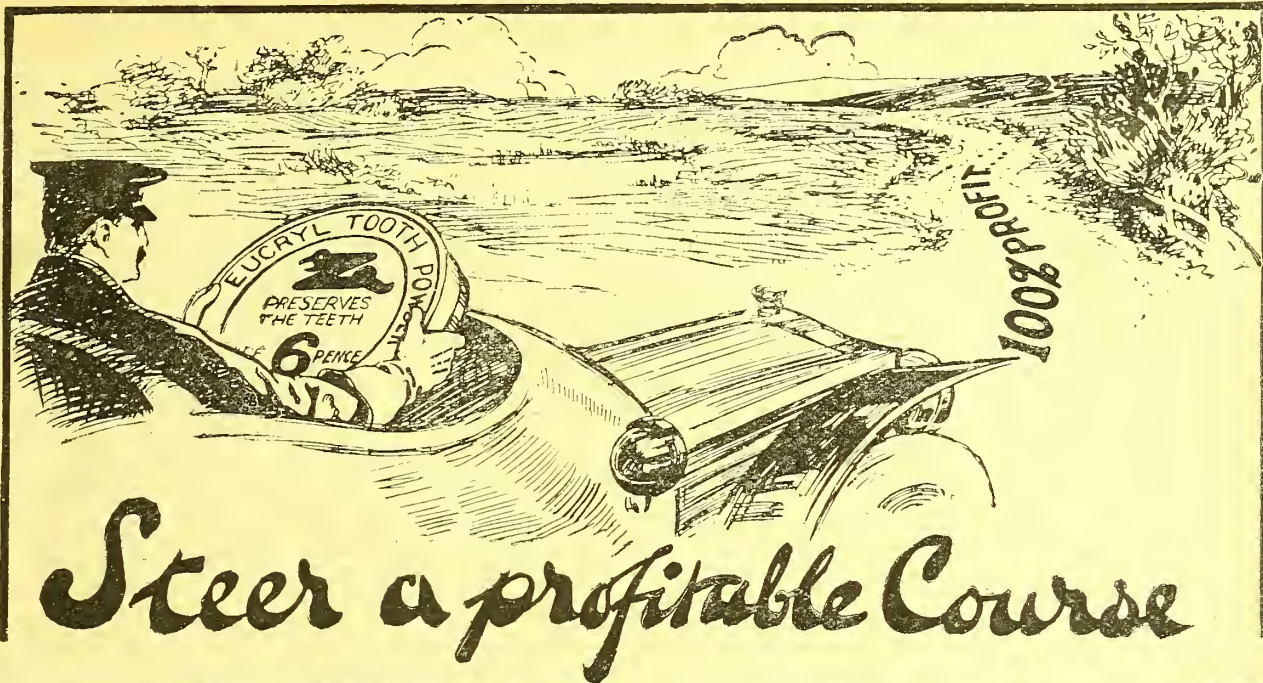
Carmex

Turns Baby's Tears to Smiles

Per doz.
11/0

Order a supply of "Carmex" to-day through your wholesale house or direct from us.

WILLIAM BROWNING & Co., 4, Lambeth Palace Road, London S.E.



Steer a profitable Course

and travel the road that
leads to success by stocking

EUCRYL TOOTH POWDER

the dentifrice that sells itself by virtue of its own sterling qualities. 100 % profit is the recurrent sign-post that points the way—a profit that marks milestones on the right side of your balance sheets. You help your Country, *by the way*, in selling EUCRYL, because it is British all through, owned by a British Company, and made in a British Factory by British people for universal consumption.

Fill in attached coupon, and take immediate advantage of the 100 % bonus terms.

EUCRYL LIMITED, 61-63 LANT STREET, SOUTHWARK, S.E.

ORDER COUPON

To EUCRYL LIMITED,
61-63 Lant Street,
Southwark, S.E.

Please send 6 dozen 6d. tins Eucryl Tooth Powder, at 3/6 dozen net, **carriage paid**, together with 2 dozen 6d. tins extra and free of charge as bonus, for which I enclose remittance value 21/-.

C. & D., July 29, 1916.

G. B. KENT & SONS, Ltd.

Offices and Warehouse : 75 FARRINGDON ROAD, E.C.

Registered Telegraphic Address :
"TRICHO PHONE LONDON."

Estd. 1777.

Telephone Nos. :
1407 and 4116 CENTRAL.

Steam Factories
ROBINSON ROAD,
VICTORIA PARK, E.



And River Gade Factories :
HEMEL HEMPSTEAD,
HERTS.

Australian Agents: Messrs. FRANCIS FORREST & CO.,
Church Lane, Melbourne.

New Zealand Agency: Messrs. PHILIPS & PIKE,
Featherstone Street, Wellington.

Canadian Agents: Messrs. LYMAN, Ltd., Montreal.

South African Agency: Mr. C. F. COCKSEGE,
P.O. Box 422, Capetown.

Agent in India and the Far East: Mr. WM. MOORE,
c/o Messrs. GRINDLAY & CO., Bombay.

Agent in British East Africa: Mr. J. GRAHAM DAWSON,
P.O. Box 216, Nairobi.

Agent in the West Indies: Mr. F. N. MARTINEZ,
Barbados.

Agent in Egypt: Mr. VASCO BIGIAMI, P.O. Box 249, Cairo.

United States Agency: Messrs. McKESSON & ROBBINS,
91 & 93 Fulton Street, New York.

Agent in the River Plate: Mr. WM. BURMESTER,
Calle Bolivar 240, Buenos Ayres.

Agents in Havana: THE INTERNATIONAL COMMISSION
CO., Obrapia 25, Havana.

Paris Agency: MM. PITET AINÉ ET CIE,
51 Faubourg Poissonnière.

Brussels Agency: LA PARFUMERIE, 46 Rue Fossé aux Loups.

Agent in Russia: M. CHMAIEVSKI, Odessa.

Agent in Spain and Portugal: M. JACQUES CAYATTE,
Madrid.

Agents in Italy: MM. ZAMPONI & CO., Corso Lodi, 3 bis,
Milan.

The Most Efficient

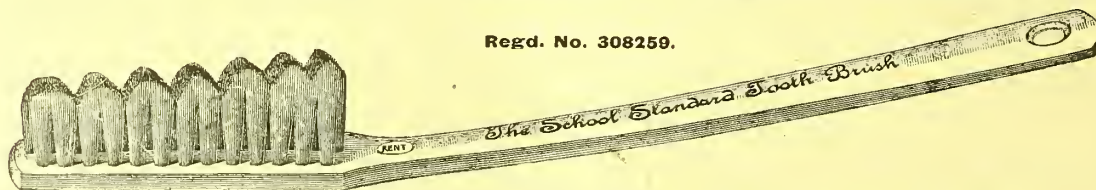


MADE

is JOHN WESSLER'S MODEL.

THE SCHOOL STANDARD TOOTH BRUSH.

Regd. No. 308259.



IN TWO SIZES.

23/- and 27/- per gross.

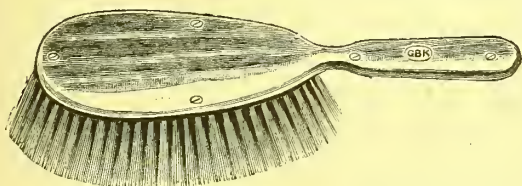
With place for writing child's name on each brush. Approved by the School Dentists' Society.

As the oldest and largest manufacturers of Best British Brushes
in the world, we can give you better value than foreign makers.

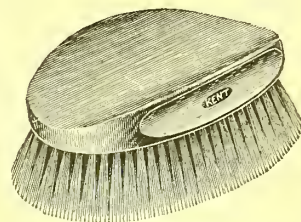
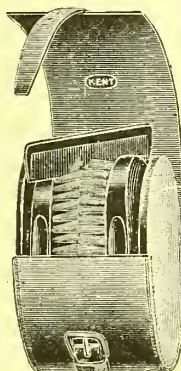
Try our QUALITY and see.

BEST BRITISH BRUSHES

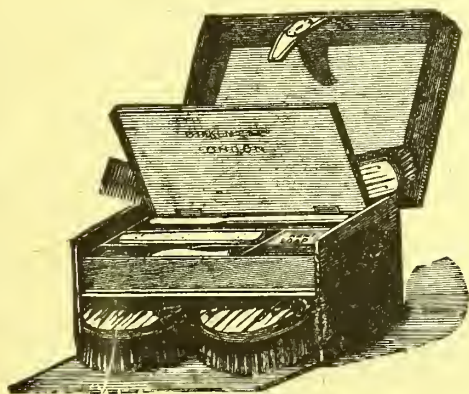
G. B. KENT & SONS, Ltd.



Hair Brushes.

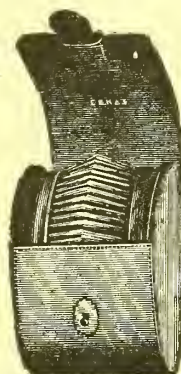
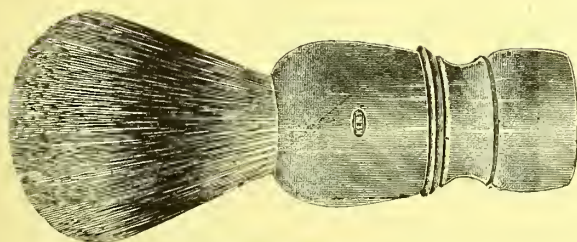


Military Hair Brushes.

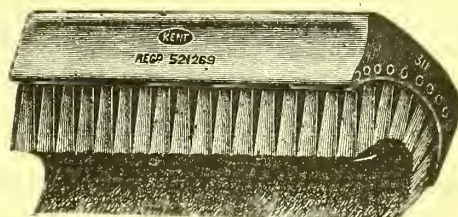


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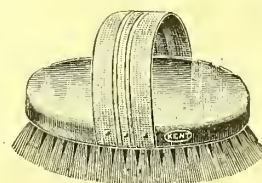
**FITTED CASES
OF
ALL KINDS.**

XXX Case.
Spring Clasp.

Shaving Brushes

The "Knuckle" or Finger Brush.
New Pattern Concave Nail Brush. Regd. No. 521269.

Flesh Bath or Friction Brushes of every description.



BEST BRITISH BRUSHES

Telegraphic Address.
"CRESSWELL, WESTCENT, LONDON."

WORLD'S HEADQUARTERS FOR

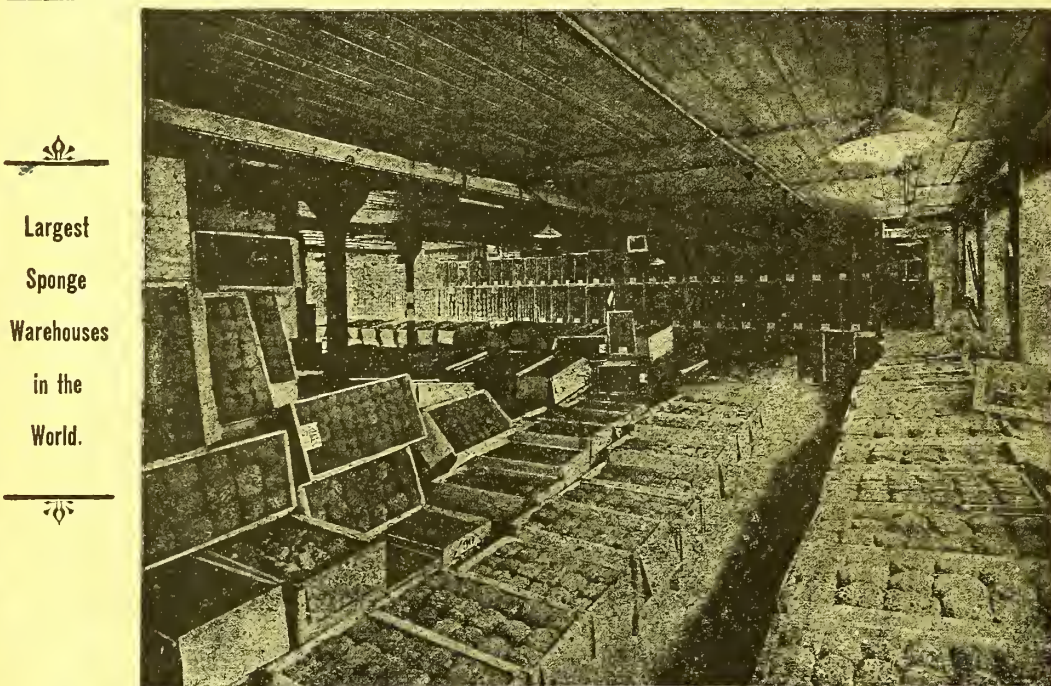
Telephone:
No. 1432 HOLBORN.

SPONGES

INTERNATIONAL SPONGE IMPORTERS, LIMITED.

CRESSWELL BROTHERS

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers, [BRANCH,
18 & 19 RED LION SQUARE, New Warehouses and Steam Bleacheries, LONDON, W.C.
45¹/₂ EAGLE STREET.



Largest
Sponge
Warehouses
in the
World.

Our Stocks
and
Selections
are
Unrivalled
in Value
and Extent.

View of Mediterranean Case Goods Department (Floor Space 3,000 sq. ft.) where Chemists' and Druggists' Sponges are shown.

Buyers are invited to call to inspect our Magnificent Stocks and make their own Selections. Lowest Market Prices. Absolutely Best Values. The following abridged List will serve as a guide to Buyers when writing.

UNBLEACHED MEDITERRANEAN SPONGES in Original Cases.



HONEYCOMB.		
Extra Choice. The Pick of all the Fisheries.		
FINEST TEXTURE and SHAPE.		
Pieces in Case.	Average Price per Piece.	
300 Toilet	at 9d.	
250 "	" 1/-	
200 "	" 1/6	
160 "	" 2/-	
140 "	" 2/6	
120 "	" 3/-	
100 "	" 3/6	
90 Medium Bath	4/6	
80 "	" 5/6	
72 "	" 6/6	
60 "	" 7/6	
45 Large Bath	8/6	
30 "	" 10/6	

HONEYCOMB.		
Toilet & Bath Good 2nd Quality.		
Pieces in Case.	Average Price per Piece.	
300 at	4d.	
270 "	6d.	
180 "	9d.	
170 "	1/-	
160 "	1/6	
140 "	2/-	
120 "	2/6	
110 "	3/-	
90 "	3/6	
80 "	4/-	
75 "	4/6	
70 "	5/-	
65 "	5/6	
60 "	6/6	

FINE TURKEY CUPS		
1st Quality.		
PICKED SHAPES.		
Pieces in Case.	Average Price per Piece.	
300 at	1/-	
200 "	1/6	
150 "	2/-	
140 "	2/6	
100 "	3/-	
90 "	3/6	
80 "	4/-	
70 "	4/6	
60 "	5/-	
50 "	6/-	
Bath	45 6/6	
Selected	40 7/6	

FINE TURKEY		
SOLIDS.		
SELECTED SHAPES.		
1st Quality		
Pieces in Case.	Average Price per Piece.	
200 at	6d.	
Nursery	200 at 6d.	
200 "	8d.	
200 "	1/-	
Toilet	150 1/6	
"	100 1/9	
"	100 2/6	
"	80 2/6	
Bath	50 3/-	
"	36 4/-	
"	24 5/-	



IMPORTANT NOTICE. THE CONTENTS OF THE ABOVE CASES WILL BE PRESS-PACKED AND SENT POST FREE TO COLONIAL AND FOREIGN BUYERS WITHIN THE RADIUS OF PARCELS POST.

LOOSE GOODS DEPARTMENT Sponges in Small Packages. Fine Turkey. Fine Egyptian and Honeycomb. In 1st, 2nd and 3rd Qualities. Bleached or Unbleached (state which in ordering). On Strings of 1 dozen pieces or loose in bags. At per dozen: 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s., 30s., 36s., 42s., 48s., 54s., 60s., 66s., 72s. Bleached Cuban. At per String or Dozen. Wool Grass, Yellow and Fine. 1s., 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s.

NEW VELVET HONEYCOMB. Soft, Durable and large for money. Suitable for Toilet and Bath purposes.
PRICES—Cut Shapes ... 3s., 4s., 6s., 9s., 12s., 15s., 18s., 21s., 24s. per dozen.
" Natural Shapes ... 4s., 6s., 9s., 12s., 15s., 18s., 21s., 24s., 30s., 33s., 36s. "
Strongly recommended where an inexpensive Toilet and Bath Sponge is required.

“VASELINE”

AND

RELIABILITY

“VASELINE” when used in Ointments contains more of the desired elements necessary for a universal base than any other known substance. It has emollient, antiseptic, healing and protective qualities in itself, is not easily acted on by chemicals, and, where properly protected from air and light, does not change. Also, when incorporated with other medicaments, they are not injured by the action of the base. These conditions have long been recognised by the leading Physicians, Surgeons and Pharmacists throughout the world. Animal and vegetable fats, on the other hand, are subject to change, forming various compounds, which destroy the end for which they were intended.

“Vaseline” is the Registered Trade Mark of the

Chesebrough Mfg. Co. (Cons'd.)
42 Holborn Viaduct, London, E.C.

Complete Price List of all the “Vaseline” Preparations will be sent post free on application.

At the present moment we can give prompt delivery.



At the present moment we can give prompt delivery.

Methylated Spirit

*White in colour & exceptionally
free from unpleasantness.*

Spirits of Wine

*All strengths. Absolute Alcohol.
Duty paid.
Duty free for Export and
Scientific purposes.*

*Try the "Extra Rectified"
for your Perfumery.*

Absolute Alcohol

Home and Export.

Chemists' Wines

*Sherry, Port, Coca,
Malt and Meat, Orange.,
Orange and Quinine,
Maintains its brilliancy permanently.
Champagnes.*

WHITE CROSS SCOTCH WHISKY.

WHITE CROSS BRANDY.

Write for Samples and Quotations.

Jas. Burrough Ltd.

D1 Cale Distillery Hutton Road LAMBETH S.E.

Telegrams : "BURROCALE, LAMB, LONDON."

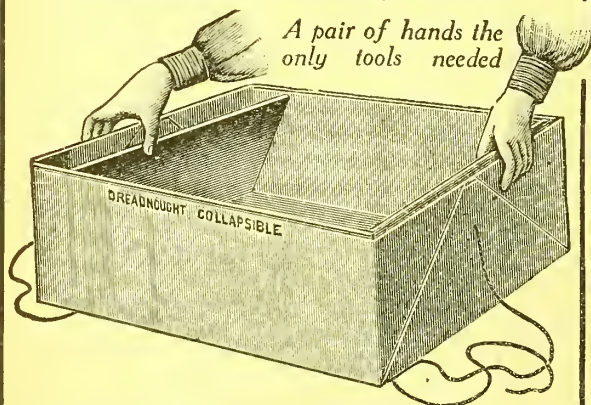
Telephone : HOP 3436 (3 lines),

Established at Chelsea 1820.

Modern Packing

Send out your goods in the modern nail-less "Hercules" or "Dreadnought" Packing Cases. Now in regular use by the foremost Houses in the Trade.

"DREADNOUGHT" Collapsible Packing Cases

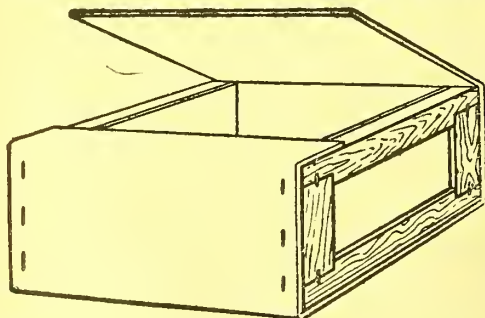


A pair of hands the only tools needed

The boxes can be erected in the short space of a few seconds; are **STRONG, RIGID, LIGHT, AND NEAT**, thus in every way being an improvement on the old-time heavy and troublesome wood cases.

Where boxes of *exceptional* strength are required we recommend the new

"HERCULES" WOOD-END BOXES,



Specially designed for the safe transit of heavy articles.

which possess the actual *maximum* of strength and capacity with the *minimum* of weight.

State sizes of boxes, weight, and nature of contents and approximate quantities required, when all the requisite information will be forthcoming.

Address the Sole Makers:

GLOBE BOX CO. (Proprietors,
Cartwright & Rattray, Ltd.)
HYDE, CHESHIRE.

Telephone No. 115 HYDE (2 lines).

CARTONS FOR STOCK LINES



WE HAVE A LARGE VARIETY OF CARTONS IN STOCK, ONE OF WHICH WE ILLUSTRATE ABOVE. THE WORKMANSHIP IS GOOD THROUGHOUT, AND WE CAN RECOMMEND THEM TO ALL WHO WISH TO SEE THEIR GOODS WELL PACKED.

WE SHALL BE GLAD TO SEND SAMPLES OF ANY OF THE FOLLOWING CARTONS FOR

BLOOD MIXTURE
CAMOMILE
COUGH BALSAM
EMBROCATION
FRUIT SALINE
HAIR RESTORER
HYPO
LEMONADE CRYSTALS
NEURALGIA MIXTURE
SENNA
SEIDLITZ POWDERS
SYRUP OF FIGS
ETC. ETC. ETC.

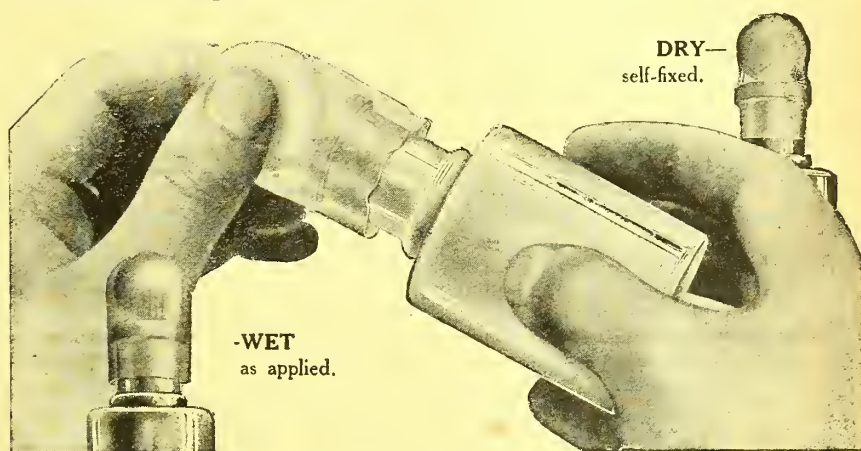
ROBINSON & SONS, LTD.

BOX MAKERS TO THE
CHEMIST TRADE

CHESTERFIELD & LONDON.

Practical economy

consists in the proper use of the materials at one's disposal, to the best effect, in the least time. Take the case of Bottle Cappings. If you can have a cap, ready shaped, which requires only to be placed over the stopper, which then automatically fits and fixes itself, it will be preferable in many ways to another that has to be fitted and manipulated by skilled hands, and finally tied in position. The saving in labour alone—particularly *now*—is something to be glad of.



Time, and
Labour,
and Waste,
and Dis-
appointment—
ALL SAVED,
by using these
**BRITISH
MADE**

Consider this method. The illustration shows in the centre the simple operation of placing a wet SEMREH CAP over the stopper and neck of a bottle. It then appears as shown on the left. Nothing remains to be done except let the cap dry. As it dries it shrinks and *fits itself* to the shape of the bottle neck and its stopper, sprinkler, or cork, thereby providing an air-tight, spirit-proof hermetic seal, as shown on the right.

The advantages are obvious: the *perfect*, automatic, hermetic closure, elegant of appearance, of great strength, and washable. All without skill, and with only about three seconds' labour. A girl can do it splendidly.

Why therefore continue using split-skins (requiring skilful cutting, shaping, manipulation and tying) or ugly, non-fitting, non-closure, non-hygienic pleated paper caps (requiring string or elastic bands)? *Neither* are hermetic nor so elegant, so strong, washable, or nearly so efficient as **SEMREH SELF-FIXING BOTTLE CAPS.**

SEMREH

SELF-FITTING

HERMETIC

BOTTLE CAPS

Write us your requirements, or send for
Booklet giving full details, prices, etc.

**THE VISCOSE DEVELOPMENT
CO., LTD., BROMLEY, KENT.**

Telegrams:
"Viscoid Bromley."

Telephone:
1415 Bromley.

Petroleum Jelly

White, Yellow, Amber,
& Ruby Red, for all
Pharmaceutical and
Veterinary purposes

MEADE-KING, ROBINSON & CO.
LIVERPOOL . . . MANCHESTER

PETROLEUM JELLY

We are importers of finest American Jelly, Red, Yellow
and White. Guaranteed B.P. Inquiries esteemed also for

GUMS. WAXES. DEXTRINE.

W. M. KIDSTON & CO., 43/45 Great Tower St., London, E.C.

Telegrams: "KIDSTONISM, BILGATE, LONDON."

Telephone: AVENUE 8057.

WM. H. BOWDLEAR

Formerly of the W. H. BOWDLEAR CO.

respectfully solicits business from any
and all former correspondents, either
on a commission basis or otherwise.

CRUDE
REFINED
and
BLEACHED

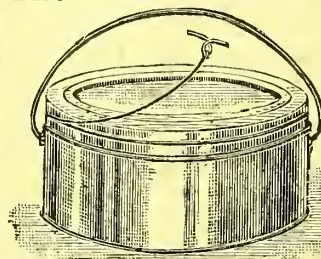
BEESWAX

Quotations given in £ sterling, per cwt.

220 DEVONSHIRE STREET (Room 201a),
BOSTON, MASS., U.S.A.

The Northern Tin Canister Works,

6 Mersey Street,
LIVERPOOL.



We manufacture for
the paint trade in all its
branches—Decorated and
Plain work.

**TIGHT SEAMING &
VARNISH BOTTLES
A SPECIALITY.**

*Patent Air Tight Slip-lid Tin
for Export.*

Prompt Deliveries Assured.

**LABORATORY
OF GENERAL PHARMACOLOGY,**
8, Rue Vivienne, Paris.

LONDON AGENTS:
WILCOX, JOZEAU & CO., 49, Haymarket, S.W.



**CHAPOTEAUT'S
CAPSULES of
PHOSPHOGLYCERATE
of LIME.**

**THE BEST TONIC FOR
FORTIFYING AND BUILDING UP
THE NERVOUS SYSTEM.**

Sold by all Chemists.
Wholesale: 8, Rue Vivienne,
PARIS.

MORRHUOL CHAPOTEAUT



CAPSULES

MORRHUOL DE CHAPOTEAUT
is extracted from cod-liver oil, and
contains all its efficacious proper-
ties without the disagreeable taste.

*It cures Coughs, Bronchitis and Catarrh,
restores the appetite, and gives force to
feeble persons.*

SOLD BY ALL DRUGGISTS.

**CHANDRON'S
DROPS**

(Gouttes des Colonies)

**A harmless antiseptic
preventative against CHOLERA-
FERMENTATION - INDIGESTION
& other intestinal disturbances.**

SOLD BY ALL CHEMISTS



*I find the odor exquisite and
will be charmed to have scented
by my name. Very sincerely,
Mary Garden*

**PARFUM
MARY
GARDEN**

RIGAUD
PARFUMEUR
16, RUE DE LA PAIX,
PARIS.

LONDON AGENTS
HEPPELL & CO., 164, Piccadilly, W.

This Window Show will create Big Sales

It is **FREE** with Orders for
One Gross 6d. CupoTea.

CupoTea is Tea, Sugar and Milk
in tablet form.

It sells at a popular price.
:: It is a quick seller. ::

NOTE OUR PRICES.

6d. Boxes, containing
6 tablets ... 4/9 dozen.
One Gross lots ... 4/6 "
Penny Tablets, packed
in boxes containing
3 or 6 doz. tablets ... 9/- gross.
6 gross lots ... 8/6 "

Above prices are Carriage paid, and subject
to 2½ per cent. for cash on delivery.

Send your order or write
for Sample to

LLOYD'S

60 Tennyson Road,
Small Heath, Birmingham.

Wholesale Terms on Application.

BEETHAM'S "LAROLA"

(Registered)

Is the Skin Tonic for 1916.

It is effective.

It is attractive.

It is price-protected.

It is well-advertised.

It sells readily.

It bears a good profit.

HAVE YOU OUR SHOWCARD?

THIS IS WHAT THE "C. & D." SAYS OF IT:

BEETHAM'S NEW SHOWCARD.—One of the prettiest litho-graphic productions which have come to us lately is the Larola beauty here depicted. The card measures 24 in. by 18 in., and is all roses, even the word "Larola" being formed from prickly rose-stems. The fair rose-gatherer has rosy cheeks, and she and the setting make so bright a picture that no pharmacy will be complete without it. Copies can be obtained from Messrs. M. Beetham & Son, Cheltenham, the originators of Glycerine-and-Cucumber and Larola.

This handsome Showcard, in 14 colours (size 24 by 17) can be had by any chemist who will give it a good place in his pharmacy.

M. BEETHAM & SON, Cheltenham.

Quick Sellers that yield Large Profits!

Peach Bloom Face Powder in three tints:—

2/- per dozen.
6 dozen lots 1/9
P.A.T.A. 3½d.

Whitecross Tooth Powder, two sizes:—

Small:—3/- per dozen.
3 dozen ... 2/9
6 " ... 2/6
1 gross ... 27/-
Large:—4/- per dozen.
3 dozen ... 3/9
6 " ... 3/6
1 gross ... 39/-

Formalin and Mint Tooth Paste, each in a carton,
Thymol Tooth Paste, each in a carton, 4/- per dozen.

Foot Powder, in dredger tins bearing illustration of
a soldier ... 1/10 and 3/6 per dozen.

Solidified Brilliantine in collapsible tubes, half
dozen on card ... 3/- per dozen.

Violet Cold Cream, each in a carton, 2/- dozen.

Special "M" Cold Cream in bulk:—

9d. per lb.
28 lb. lots 8d.
56 " " 7½d.

Special quotations for quantity.

Bay Rum:—2 oz. 3/3; 4 oz. 6/-

These are a selected few out of many lines we can now supply.

Shirley Brothers, Ltd., Whitecross Works,
LONDON, S.E.



This Attractive Window Scheme is **FREE**.

READ THE DETAILS BELOW.

AIR Pillows are wanted by the Troops. They are asking for them. The demand is on the increase. The sources of supply are limited, therefore make a well-directed effort to secure the whole of the business in your town.

Chemists all over the country are selling thousands. Why not you?

With each order for Air Pillows we will send a complete set of cards for making a Special Air Window Display—**FREE**.

No. 1 Quality.—13/- per doz.; 3 doz. lots, 12/6 per doz.; 6 doz. lots, 12/- per doz.

No. 2 Quality.—10/6 per doz.; 6 doz. lots, 10/- per doz.; 1 gross lots, 9/6 per doz., carriage paid.

Large size, retail, 2/9; 21/- per doz.

A Recent Testimonial from a satisfied "Chemist and Druggist" Subscriber:—

"It might interest you to know that the other Saturday I sold 3 dozen in *three hours* during the evening, bringing up a total of 4½ dozen for the day."

Send in your Order NOW.

Supplies, which come from Japan, are limited.

LLOYD'S, 60 Tennyson Rd., Small Heath, BIRMINGHAM.

MONTHLY JOTTINGS

THERE is no more profitable method of advertising than the distribution of a Monthly Store Paper issued under your own name and advertising your own specialities. To get up your own entails a lot of time and expense.

"MONTHLY JOTTINGS" is a well-written advertising monthly for the Pharmacist to distribute from house to house. It is written by expert advertisers, and its regular distribution builds permanent and profitable business, yet its cost by reason of our large output is less than that of cheap and badly-written and printed handbills.

500	-	cost	12/-
1,000	-	"	17/6
2,000	-	"	15/6 per 1,000.
5,000	-	"	13/6 " "

One Pharmacist says: "We distribute 2,000 monthly, and the extra optical business alone more than pays the entire cost of the paper and its distribution."

Only one client in a small town or district of large town accepted.

If we have no client in your town we will gladly send you a Specimen Copy and full particulars on request.

THE HOLOYD ADVERTISING SERVICE
323 Coventry Road, BIRMINGHAM.

LOOFAHS

Owing to the enormous advance in freight and shortage of ships, the price of these goods is now considerably advanced. I can, however, offer for a short time a few bales as follows :

SIZES (approx.)

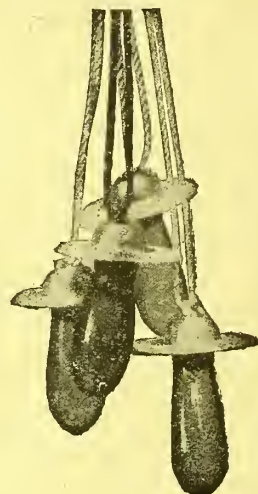
6"—8"	-	8/-	per gross	} Net Cash with Order
8"—10"	-	12/-	" "	
10"—12"	-	24/-	" "	
12"—14"	-	36/-	" "	
14"—16"	-	48/-	" "	

TERMS :—

Carriage free in U.K. for £1 parcels. Foreign and Colonial Customers please include Parcels Post rate approximately.

THOMAS SWALES,
24 Butts Court, and 89 Albion St.,
LEEDS, ENGLAND.

The Eversafe Baby Pacifier



Patented in
all countries

ENTIRELY BRITISH MADE.

Accumulated orders permit
of forward delivery only.

F. SCHUTZE & CO., Ltd.
Black Bull Works :: LONDON, N.

Dr. Evan Williams' HENNA SHAMPOO

ANGLO - AMERICAN 178
WESTERN UNION DIRECT UNITED STATES
CABLEGRAM
Via Anglo
Melbourne
To Two Charentre
West London
Demand steadily increasing
ship promptly two hundred
pounds worth Henna Shampoo
assorted grades. Packs, Tins
365

makes friends
wherever it goes.

It "goes" in all Four
corners of the Earth.
"Demand steadily increasing"
tells the story that ought
to interest you.
Why not investigate ?
Full Particulars and Terms
sent on application.

General Agents
289, OXFORD STREET,
LONDON, W.

Sydney

Adelaide

Melbourne

66

*Demand steadily increasing
Everywhere.*

"The Standard of Purity."

LIQUID PARAFFIN

PAR. LIQ.

ODOURLESS :: TASTELESS :: COLOURLESS

PETROLEUM JELLIES

B.P. 1914

WHITE, YELLOW, ORANGE, LEMON.

WHITE & COLOURED OILS

YELLOW, GREEN, RED, ETC.

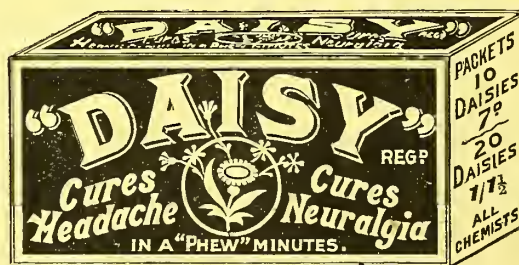
WHOLESALE ONLY—

STERN SONNEBORN OIL CO., LIMITED,

51 ROYAL LONDON HOUSE, FINSBURY SQUARE, LONDON, E.C.

108 HOPE STREET, GLASGOW.

WATCH YOUR STOCK



Despite the enormous increase in the cost of Drugs, we are still able to supply DAISY at "before War" prices.

WE PAY ALL THE WAR INCREASES.

We are, however, exceptionally busy, so busy that we must ask our customers' forbearance for any delays that occur. The railways are also dreadfully congested and add still further to the delay. Chemists are, therefore, well advised to watch their stocks and order early.

DAISY has always a live sale. **Profit over 100 per cent.**

DAISY, LTD., Mammoth Works, **LEEDS.**

ESTABLISHED 1893.

Telegrams : "DAISY LEEDS."

ANALAX

(Regd. Pat. No. 310716).

THE
IDEAL
FRUITY
LAXATIVE
IN
PASTILLE
FORM.



DELICIOUS
RELIABLE
EFFECTIVE
STEADY
PROFIT-
ABLE
SELLER

FROZOCLONE

(Regd.)

THE WORLD'S
GREAT PERFUME
AND
REFRESHER IN
SOLID FORM



RETAILS 2/-
(P.A.T.A. MINIMUM 1/9)
GIVING AT LEAST
6D. PROFIT
ON EACH SALE

FROZOCLONE is a convenient form of the finest Eau de Cologne, refreshing when rubbed on the forehead, equally pleasant as a smelling bottle, invaluable in a heated atmosphere and when motoring.

RISICCOL (Regd.)

(Demuth's Castor Oil Powder) prepared from the purest Castor Oil, **absolutely tasteless**, yet possessing all medicinal properties



MUTHOL (Regd.)

A deliciously palatable cream containing 99% purest medicinal Petroleum Oil B.P.

FRU-MUTHOL (Regd.)

Prepared from Paraffinum Liquidum B.P. and Fruit Juice in the form of a Jelly. Raspberry, Lemon and Orange Flavours.

LEMON-SQUASH TABLETS

(Home-made Lemonade). Made with pure lemon and sugar. Delicious and refreshing. One tablet sufficient for a pint of water. In tins containing 12 tablets.

CARNATE

A Nail Polish with new and distinctive features. Antiseptic—Keeps soft—Brilliant and lasting polish.

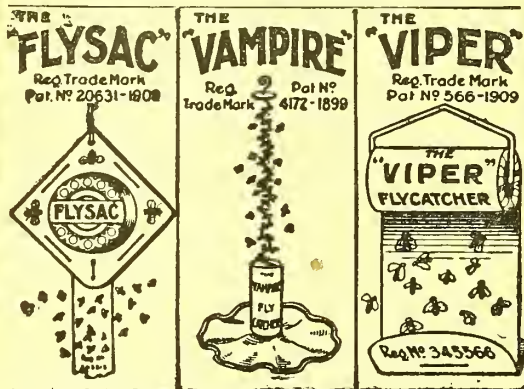
SOUND SPECIALITIES CARRYING A GOOD PROFIT. — Full Particulars and Advertising Literature on request.

R. DEMUTH'S LABORATORIES 68 SALUSBURY ROAD, LONDON : N.W.

Telegraphic Address: "Boulbene London."

Telephone: 525 Willesden.

REAL FLYCATCHERS!



Prompt Deliveries! Big Profits!
Quick Returns!

**NO EXPERIMENT, BUT A PROVED
SUCCESS.**

WELL MADE AND WELL ADVERTISED.

Send for Samples. They bear out our claims.

SOLE MAKERS AND PATENTEES:

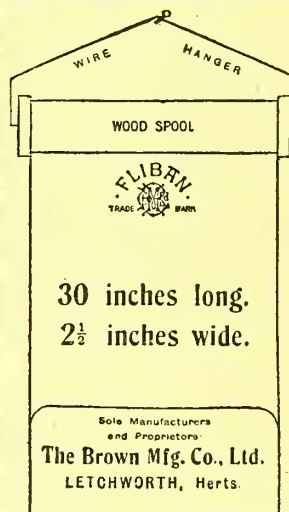
KAY BROTHERS, Ltd., Stockport.

Nat. Tel. 247. Telegrams: "KAY STOCKPORT." (1)

(30 years' experience in the manufacture of Birdlimes and Flygums.)

BROWN'S FAMOUS 'FLIBAN'

"THE DEADLY HOUSE FLY."



Wholesale Houses desiring to handle the MOST EFFICIENT, NEATEST, AND CLEANEST BRITISH MANUFACTURED ARTICLE, should handle

**THE WORLD-RENOUNDED
'FLIBAN'
FLY CATCHER.**

HAS NO SUPERIOR.

Specially made to withstand varying climatic conditions.

Insures repeats and permanent business.

Test this when all others fail.

Samples and prices on application. Prompt deliveries guaranteed.

**THE BROWN MANUFACTURING CO., Ltd.
LETCWORTH, HERTS. ENG.**

The Best of all Fly Catchers



TUNBRIDGE & WRIGHT'S Fly Cemetery

The original and best of all Sticky Fly Papers, 6/- per gross net, carriage paid. Cash with order.



TUNBRIDGE & WRIGHT'S Cemetery Fly Tape



Very neat, simple, and efficacious, 7/6 per gross net, carriage paid. Two gross lots and up 7/- per gross, carriage paid. Cash with order.

TUNBRIDGE & WRIGHT'S Cemetery Fly Band

The neatest, simplest, and cleanest of all band catchers. Packed in boxes containing three dozen. 8/- per gross net, carriage paid. Cash with order.

**TUNBRIDGE & WRIGHT
READING**

London Depot—46 FARRINGTON STREET, E.C.
N. of England—4 Gallowgate, NEWCASTLE-ON-TYNE.
Telegrams: "FLIES READING." Telephone: 496 Reading.



**CHRISTY
STRONG'S**

"COBWEB" & "GRIP" FLY PAPERS

Per Gross **6/-** Carriage Paid.

The "Strong" Fly String 8/- Per Gross.

Postal Address :

**115 CHATHAM STREET,
READING.**

Telegraphic Address: "STRONG READING."

The illustration depicts a large airship with a Union Jack flag flying from its stern. A man in a pilot's uniform stands on the deck, waving. A fly is shown flying away from the airship, with a speech bubble saying "I'M OFF TO MARS". The globe in the foreground has a banner wrapped around it that reads "FREE FROM FLIES". The airship's speech bubble says "CAUGHT ALL BUT ONE & I'LL HAVE HIM SOON". The product name "THE DOOMO AIRSHIP FLY BAND" is prominently displayed in large, bold letters. Below it, the text "1d PATENTED" and "GUMMED ON BOTH SIDES" is visible. At the bottom, a roll of the product is shown with the text "DOOMO AIR SHIP" on it.

**THE DOOMO
AIRSHIP
FLY BAND**

FREE FROM FLIES

**THE DOOMO
AIRSHIP
FLY BAND**

1d PATENTED

**GUMMED ON
BOTH SIDES**

DOOMO AIR SHIP

A wide band, sticky on both sides. unrolling like a blind.

FLYODOOMO - the old favourite Fly Paper.

Jno. H. Smith & Co.,

TELEGRAMS: SMITH, CHEMIST, NEWARK

NEWARK-ON-TRENT.



Contractors to the War Office, India Office, &c

ZONDO SIZOLIN

High Co-efficient Fluids.
120,000 Gallons supplied to
H.M. War Office in 1915

Cheap & Powerful
Disinfectant, Milky Fluid.
Largely exported to the
Colonies, S. America, &c.



ZONDO-SAPONIS. Strong Soap Fluid Cleanser Disinfectant

MANUFACTURERS TO THE TRADE at
LOWEST PRICES OBTAINABLE.

Standardised Disinfectants Co., Ltd., Billiter Buildings, London, E.C.

CABLES: "ADDOOM LONDON," A B C CODE.

WORKS: LIMEHOUSE, LONDON, & LEICESTER, ENG.



LYSOL

The German Disinfectant has
been replaced with universal
satisfaction by

ZONZOL.

CARBOLINUM

The German Wood
Preservative is superseded satis-
factorily by

BRUNOLINUM



By Royal Warrant

To H.M.
King George V.

To H.M.
Queen Alexandra.



Holders of Royal Warrants during three successive Reigns.



Jeyes' Fluid—Best and Safest Disinfectant.

Cyllin—Jeyes' Special Fluid. The relatively
non-poisonous Bactericide.

Cyllin Medical—A refined preparation of
Cyllin.

Jeysol—Identical in composition with original
German Lysol, and equally efficient.

Jeyes' Parasitic Soap—For destroying
all body parasites in the trenches.

Jeyes' "Cyllin" Toilet Soap—Invalu-
able for promoting a healthy skin.

Senalia—Delicately perfumed tablets. "The
Queen of Toilet Soaps."

Jeyes' Sanitary Compounds Co., Ltd., 64 Cannon St., London, E.C.



For quick sales, repeat orders, satisfied customers, and the greatest numbers of dead rats there is nothing to beat "Rodine," while appointed Agents get nearly 100 per cent. Profit. Send for a Carriage Paid order (£1) now to the Maker—

HARLEY, Manufacturing Chemist, PERTH, SCOTLAND.

Export Agents—
TOZER, KEMSLEY & FISHER, LTD.
 84 Fenchurch St., London, E.C.

DANYSZ VIRUS

Is on the P.A.T.A. LIST.



Retail Prices

2/- Per Single Tube
 5/- For Three Tubes

LEAVE YOU A
PROFIT of
75% and 50%
 RESPECTIVELY.

LIQUID VIRUS
 for large applica-
 tions at 6/- per
 quart bottle, mak-
 ing about 5 lb. of
 bait.

SHOWCARDS.—
 Dummy Boxes, Clockwork
 Cats for Window Display,
 Circulars, Postcards, &c.,
 on application.

Through your Wholesale House, or direct from

DANYSZ VIRUS, LTD.,
 (Dept. G A), 52 Leadenhall Street, LONDON, E.C.

MORRIS, LITTLE & SON, Ltd., DONCASTER

SHEEP DIPS (Poisonous and
 Non-Poisonous) **of all kinds.**

DISINFECTANT SOAPS of all kinds.

DISINFECTANTS
of all kinds, including
LYSOL SUBSTITUTE
 and High Co - Efficients.

Largest Makers of Non-Poisonous Sheep Dip in the World.

J. BARRACLOUGH & CO.

WATER LANE, LEEDS.

Packers of Own Name and other Specialities

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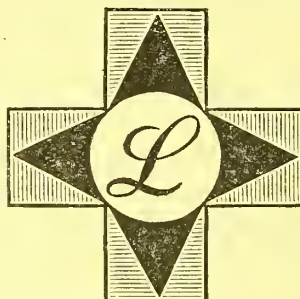
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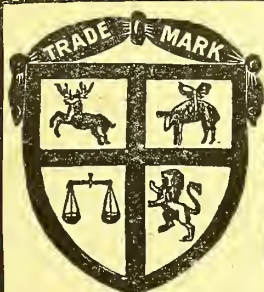
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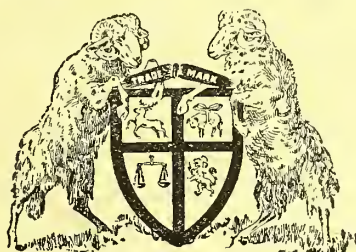
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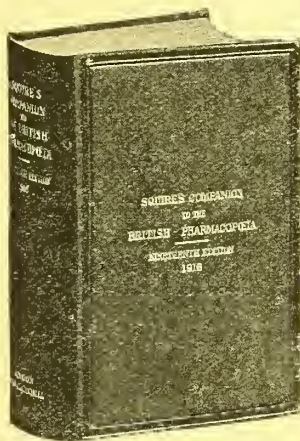
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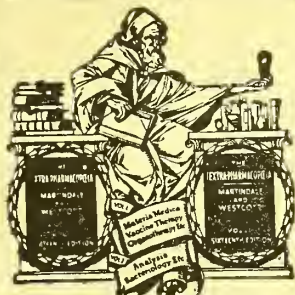
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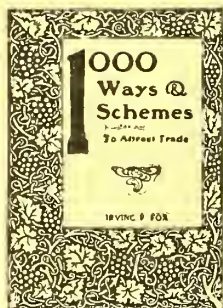
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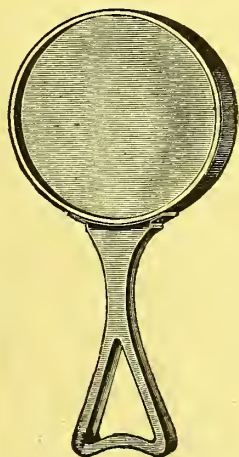


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Made in eleven grades and surfaces.



RAJAR GASLIGHT.

Distinguished by their ease of working, freedom from fog and stains, brilliancy of the image, and pureness of the whites. They never show abrasion or friction marks, and are without doubt the finest Gaslight papers and cards extant.

We make two grades—"Ordinary" for normal negatives and contrasty results, and "Special Portrait" for dense negatives and soft results—and in four different surfaces.



The best selection of papers for
ALL—THE—YEAR—ROUND—USE.

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Full details and trade
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RAJAR Limited,
Manufacturers of
FILMS, PLATES & PAPERS
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BRITISH MADE ELECTRICAL APPARATUS

We have for many years specialised in Electrical Apparatus, particularly such lines which have usually been made abroad. We illustrate a few lines which appeal particularly to Chemists and Druggists all over the world. We issue a 62-page Catalogue full of Electrical Novelties, Electro Medical and Electro Technical Apparatus, which will be mailed free to the trade on application. Our manufactures enjoy a world-wide reputation for Quality and Good Value.



SPECIAL No. 307. British Made Pocket Lamp Case complete with 1-in. Lens, Battery and Metal Filament Bulb

per doz
12/9
net.

The following prices are per dozen net, and include special "Volex" Export Batteries and special Tungstic-wire Export Bulbs. *Reliable in all climates.*

Complete with Refills and Best Bulbs. DESCRIPTION.	1½ lens.		1¼ lens.	
	No.	Dz.	No.	Dz.
Popular quality, assorted covers, polished fittings ..	310	17/9	903	18/9
Medium quality, leatherette covers, nickelled fittings ..	325	19/9	905	20/9
Superior quality, in best leatherette covering, heavily nickelled	324	23/9	904	26/3
De Luxe quality, real leather covering, and heavily nickelled	423	27/3	S20	30/3

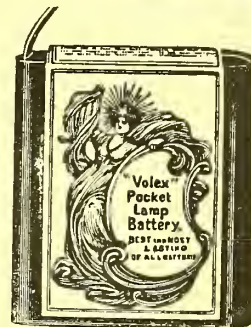
THE JEWEL ACCUMULATOR (DRY PATTERN).



These accumulators fit our standard size pocket lamp cases.

2 volt **2/3** each.
4 volt **3/6** "

The 2 volt size will light our CULLINAN bulbs about 6 hours at a charge.



POCKET LAMP DRY BATTERIES.

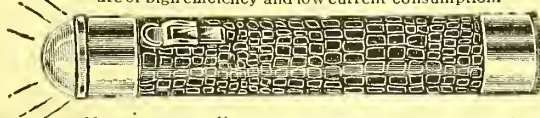
British Manuf. cture. Made of the finest chemicals and finished by a special process to ensure maximum life. Supplied to H.M. War Office. "VOLEX REFILL." Highest grade. Net Trade Price, 6/- dozen.



THE "DUCHESS" WAISTCOAT POCKET ELECTRIC LAMP.

Most reliable. Fitted with bull's-eye lens, heavily nickelled caps. Recommended for Export. Complete with Refill and Bulb. Price **30/-** doz. net.

These Torches are British Made, and of very strong construction: the metal ends are not stamped, but turned and machined from the drawn metal and heavily nickelled; the bodies are covered with best leatherette, and the switch contact is of the latest and best type. The batteries supplied are made for export by a special process, ensuring maximum life, and have been favourably reported on by H.M. Trade Commissioner for the Colonies. The metal filament bulbs employed are of high efficiency and low current consumption.



No. 11.—THE "MAJOR" TORCH, as illustrated.

Size, 9½ × 1½ ins., complete with bulb and battery, **6/3** each net.

Also supplied with real leather covering, De Luxe model, complete, **9/6** each net.

Best quality Refills, 7 × 1½ ins., **1/6** each net.

No. 41.—THE "KIT" TORCH. Similar to above but shorter, to take a 2-cell battery; most portable and convenient; quite reliable for export. Size, 7 × 1½ ins., complete, **5/6** each net. Best quality Refills, 4½ × 1½ ins., **1/3** each net.

No. 24.—THE "OFFICER" TORCH. High-class Inspection Torch, similar to the "MAJOR," but with most powerful reflector and 2½ in. lens.

Size, 10½ × 1½ ins., complete, **7/9** each net.

Best quality Refills, 7 × 1½ ins., **1/6** each. Spare Bulbs, **-6** each net.

For lower-priced Torches see our "N" Catalogue.

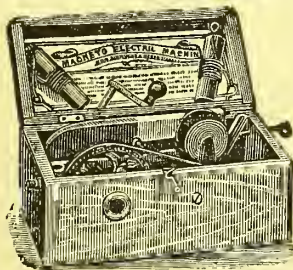
MEDICAL COILS.



Superior finish, with highly polished nickel mounts, powerful coil, complete with handles and regulating tubes (as illustration). No. 4/261. Price **24/9**.

Large variety in all qualities.

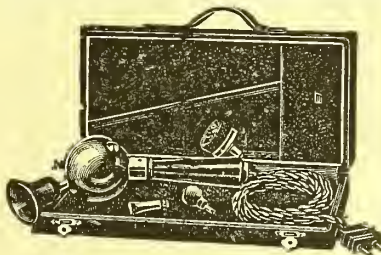
Net Trade Price from **3/-** upwards.



We manufacture a very wide range of

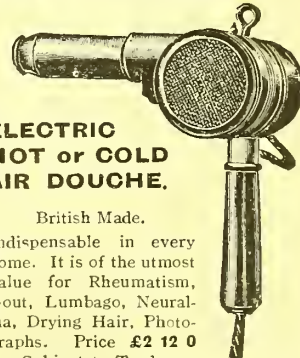
MAGNETO MACHINES

From **10/-** each net (as illustrated).



THE "SAMPSON" MASSAGE VIBRATOR.

TO WORK FROM ELECTRIC LIGHTING CIRCUIT. The ideal instrument for Vibratory Massage, and recommended for Rheumatism, Obesity, Paralysis, Neuralgia, Nervous Diseases, etc. In handsomely finished case, lined velvet, richly nickelled electrodes. Price **£4 0 0**, subject to Trade Discount. State voltage when ordering, and if for direct or alternating current.



ELECTRIC HOT or COLD AIR DOUCHE.

British Made.

Indispensable in every home. It is of the utmost value for Rheumatism, Gout, Lumbago, Neuralgia, Drying Hair, Photographs. Price **£2 12 0**

Subject to Trade Discount.

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INTERESTED?

*MANY Clients make good incomes this way.
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YOU can make the former—perhaps the latter.*

INVESTIGATE!

*May I help you?
I am a Fellow of
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Enough said!*

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*Mail Order Specialist for Chemists & Druggists,
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**WRITE TO-DAY
FOR MY
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(Special offer during War.)

Write at once for particulars of above and D.C.O. Examination. Note New Address where all communications should be directed.
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ELECTRIC POCKET LAMPS, TORCHES, REFILLS & BULBS



OUR NEW SEASON'S LIST

is not quite ready. But in the meantime we can send you a sample dozen Pocket Lamps and Torches, all different, and retailing at from 1/6 to 6/- each.

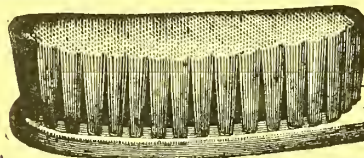
for 25/- net, carriage paid,
including a variety of refills.

ARCHIBALD J. WRIGHT,

Manufacturing Electricians,

LTD.

61 Eden Grove, Holloway, London, N.



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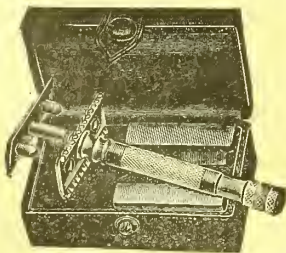
BIDWELLS' TOOTH BRUSHES.

NO LOOSE HAIRS.

Please send for Catalogue—

BIDWELL, BIDWELL & CO., Ltd., AXMINSTER, DEVON.
LONDON OFFICE: BUSH LANE HOUSE, CANNON STREET, E.C.

SAFETY RAZORS



Complete Outfits,
8/6 to 36/- Doz.

**SAFETY
RAZOR BLADES,
4/6 to 14/6
per Gross.**

Wholesale trade only supplied.

HAMMETT'S, —Manufacturers,—London, N.E.
422 MARE STREET,

Old Hats. Old Hats.

"WHITEAGAIN"

Makes old straw hats like new.
A compound that cleans & bleaches.

NON-POISONOUS.

3 doz. 2d. packets on cards 4/- net.
8 cards for 24/- Carriage paid.

CASH WITH ORDER.

L. K. Co., 168 Tower Bridge Road. S.E.

Sole Proprietor: ROBERT BLACKIE.

Telephone 2415. HOP.

A FEW MORE FACTS

For the Optician who Knows his Business.

THERE is a great need at the present time for practical Economy!

YOU are economising! But is your economy practical and profitable?

DOES your study of economics include a thought for the future as well as the present.

DO you realise that the chance customer of to-day should be a source of income to you in succeeding years as well as at the present time, either by means of his direct purchases, or through his recommendation to friends?

YOUR future income depends upon the quality of the goods you supply to-day, and the resultant satisfaction, or otherwise, of your present clients!

THEREFORE, a few coppers saved by the purchase of cheap quality frames or other goods, will probably rebound in the form of many pounds lost through the medium of a dissatisfied clientele.

This is **not profitable Economy**.

IT is because we realise this and moreover believe it, that we do **not** offer to you cheap priced goods of dubious quality, but only goods of **Guaranteed Quality**.

BY the way, touching on Rolled Gold, has it occurred to you that 1/10th 10ct., or any other fractional denomination of quality, is **no indication whatever of the value of that particular frame**, as a whole lot depends on the manufacturing methods employed, and a whole lot more on **the weight of the frame**? This is well worth remembering when comparing prices.

Economise profitably by purchasing only **Guaranteed Goods** such as:—

The "**STANDWEAR**" Mounting (Finger-Piece) in Rolled Gold and Solid Gold.

The "**CHALLENGE**" Mounting (Finger-Piece) in Rolled Gold.

The "**STANDARD**" Eyeglass Mounting in Steel, Rolled Gold and Solid Gold.

The "**STANDARD**" Eyeglass Frame in Steel, Rolled Gold and Solid Gold.

The "**STOCO**" Rimless Spectacle Mounting in Rolled Gold and Solid Gold.

The "**STANDWEAR**" Rimless Spectacle (with Solid Gold Nose Pads and Comfort Temples) in Rolled Gold only. (UNIQUE AND EXCLUSIVE DESIGN.)

"**STOCO**" Rolled Gold Cable and Straightside Frames. Guaranteed for 5, 10, 15, 20 and 25 years.

"**STOCO**" Rolled Gold Oval Bar Astigs. Guaranteed for 5, 10, 15, 20 and 25 Years.

"**SILVALINE**" (Registered). Our Special White Metal Alloy. Cable Side, Straightside and Astig. Frames.

"**STOCO**" **OPTICAL MACHINERY**. The merits of which are well known.

"**FARRINGTON**" **SPECTACLE CASES**. For which we are the Sole Agents.

"**STURDY**" **EYEGGLASS CHAINS**, in Rolled Gold and Solid Gold.

LENSES: Large stocks of Edged and Uncut always on hand at **RIGHT PRICES**.

PRESCRIPTION SERVICE.

STANDARD OPTICAL CO., Limited,
59-62 Hatton Garden — LONDON, E.C.

Factory—GENEVA, NEW YORK, U.S.A.

Telephone: 3060 Holborn (2 lines).

Telegraphic Address: "Safability."

TARTACREAM

Not a Substitute for—but really an
Improvement on Cream of Tartar

(ALL BRITISH).

It has been submitted to the highest Medical Authorities, and they are unanimous in pronouncing it absolutely perfection. And, whereas Cream of Tartar Baking Powders are injurious to health, Tartacream is beneficial in every way.

Read the following Extract from an enterprising Wholesale House, dated January 4:

“We thank you for sending consignment of Tartacream, and will be glad to have a further consignment as early as possible. The orders we have on hand at the moment are 60 1-cwt. casks and 80 28-lb. boxes, *i.e.* after sending out the ton we have received to-day.”

CREAM POWDER No. 1

Brumo Brand (Reg.)

Acidity equal to 99 per cent. Cream of
Tartar, and not over 2 per cent. Sulphates.

CREAM POWDER No. 2

Brumo Brand (Reg.)

For Prices and Terms:—

THE BRITISH WHEAT SALTS CO.,

Moseley Street, BIRMINGHAM.

Tel. Address: “LOAVES BIRMINGHAM.”

Telephone: Midland 2591.

Half triple column Announcement in Daily Papers.



Your Doctor

is the proper person to tell you what is good for your nerves—the food to build up your strength and repair the waste and worry of modern life.

Your doctor will tell you that the German patent Sanatogen was an excellent tonic food; but that it still belongs to your country's enemies.

Unsuccessful attempts have been made to replace German-owned Sanatogen, but your Doctor has lately received evidence that the efficient equivalent of Sanatogen, free from injurious impurities, is the one which advertises its Analysis, namely:

Note This:

Your Doctor can rely on Sanagen and so can you: The analysis of it is no secret.

Sanagen

THE BRITISH NERVE FOOD

(Trade Mark Registered.) The British Super-Sanatogen.

Your Doctor will Approve of Sanagen when You are Weak and Run Down with

Nervous Exhaustion Wasting and Loss of Tone Convalescence from Illness
Effects of Influenza Nervous Dyspepsia Overwork and Sleeplessness

Analysis:

12.1%	Moisture	10.8%
7.1%	Ash	7.0%
Traces	Fat	0.8%
75.8%	Proteids	75.0%
5.0%	Undetermined Organic Matter	6.6%
100.0		100.0
5.48%	Phosphoric Acid in Ash	5.35%
9.28%	Equivalent to Sod. Glycero-phosphates	12.55%

Prices:
in 1/9, 2/8, 4/9 & 9/- packets.

Analysis:

10.8%	Moisture	7.0%
7.0%	Ash	0.8%
75.0%	Proteids	6.6%
100.0		100.0
5.35%	Phosphoric Acid in Ash	12.55%
12.55%	Equivalent to Sod. Glycero-phosphates	

Prices:
in 1/6, 2/6, 4/6 & 8/- packets.

Your Chemist will sell you Sanagen
 in 1/6 2/6 4/6 & 8/- packets.

Note.—Sanagen does not "cake" or harden in the packet, because it is free from sugar of milk. Your doctor will appreciate the great importance of this and will approve of your avoiding any sanatozen substitute of which the same cannot be said.

Medical Men and Nurses

will be supplied with a 1/6 packet of Sanagen **free of charge** on application to

Casein Ltd.,

Culvert Works, Battersea, London, S.W.

To the Trade

This is one of the advertisements appearing in Daily papers sending customers to Chemists for the British Nerve Food destined to supersede Sanatogen. Doctors and Nurses are also being circularised.

Sanagen

(being free from Milk Sugar) does not cake on the packet. Every package carries a full ANALYSIS. Your doctor-customers will appreciate both these facts.

SANAGEN can be obtained of all wholesale houses on P.A.T.A. conditions

Inquiries invited

for dried-milk products and glycerophosphate - casein preparations in bulk or with chemists' labels. Free from every taint of Germanism.

Casein Ltd.,
 Culvert Works,
 Battersea,
 London, S.W.

Manufactory:
 Tipperary, Ireland.

Showcards and printed matter free on application.

Cable Address : "SELGOG LOND ^N "	ESTABLISHED 1870.  TRADE MARK.	Telephone 2215 LONDON WALL.
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BALFOUR HOUSE,
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Headquarters for British Manufactures of

ACETOPIRIN (replaces Aspirin) Tablets and Powder
 ACID ACETYLSALICYLIC
 AMIDOL
 ARGENTUM PROTEINICUM (Protargol)
 " NUCLEINATE
 CALCIUM LACTATE P.B.
 " SULPHITE
 DIAMIDOPHENOL
 LANOLINE ANHYDROUS P.B., and good second
 HYDROUS " " " "
 LYSOL
 NARGENTOL (Silver Nucleinate, containing 24 %
 Silver)
 VITAGEN (all-British, equivalent of Sanatogen)

Agents Wanted throughout the World. Liberal Terms and Advertisement given.

Chymol

To obtain **82·7%** profit
on a **NATIONALLY ADVERTISED** line.
(P.A.T.A.)

To the first thousand Chemists responding to this advertisement we will send the selection below. With this selection we will give orders to distribute half-a-dozen 2/6 packages of Chymol to local Doctors at our expense.

DETAILS OF THE DISPLAY.

	s.	d.		s.	d.
4 doz. 1/- Chymol at 9/-	...	36 0	Selling price, 5 doz. at 1/-	...	60 0
3 doz. 2/6 Chymol at 24/-	...	72 0	" " 3 doz. at 2/6	...	90 0
		108 0			150 0
Less 5 per cent. for display	...	5 5	Less cost of six 2/6 Chymol distributed to Doctors	...	12 0
		102 7	Net selling price	...	138 0
And 1 doz. 1/- free	...	12 0	Less net cost	...	75 7
		90 7	Net profit	...	62 5
Less 15/- cash value distributed to Doctors	...	15 0			
Net cost, carriage paid	...	75 7			

Or **82·7%** profit on the investment.

Send us your order at once;
mention "C. & D." offer.

N.B.—To ensure ample display material, indicate space available when ordering.

THE CHYMOL COMPANY Ltd.
ATLANTIC HOUSE,
HOLBORN VIADUCT, LONDON, E.C.



PROFITABLE LINES.

FOR HOME SERVICE.

CEREGEN

PROTEID PHOSPHATE NERVE FOOD.

Prices: 1/2, 1/11, 3/4, 6/2.

FOR RED CROSS WORK.

LYSOL "BELL"

(Pathone)

GERMICIDE—ANTISEPTIC.

Prices: -/7, 1/-, 1/9, 2/9.

FOR FOREIGN SERVICE.

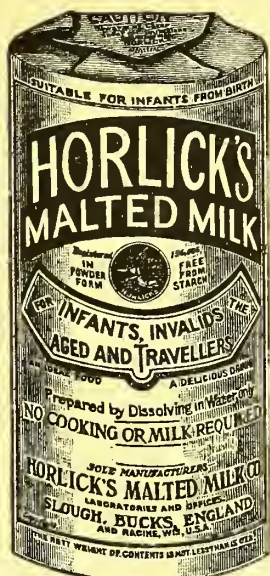
UNGUEMOL

POWDERED LICE-GREASE.

Price: 1/-.

BRITISH MADE-BRITISH OWNED

JOHN BELL, HILLS & LUCAS, Ltd.
Oxford Works, Tower Bridge Road, London, S.E.



THE PACKAGE.

HORLICK'S MALTED MILK

THE IDEAL FOOD FOR ALL AGES.

NO ADVANCE IN PRICES
OF EITHER POWDER OR TABLETS

Prices in single dozens, in both powder and tablet forms :

Liquid Capacity of Bottles.

1/6 SIZE	- 9 OZ.	- 14/9	per dozen.	Packed 1 dozen in a case.
2/6 SIZE	- 19 OZ.	- 24/9	per dozen.	Packed 1 dozen in a case.
11/- SIZE	- 99 OZ.	- 100/-	per dozen.	Packed 3 and 4 in a case.

If FULL dozens are ordered and an order made for £8 8 0 CARRIAGE WILL BE PAID IN GREAT BRITAIN, and the prices of the 1/6 and 2/6 bottles will become 14/- and 23/- per dozen each. Both powder and tablets and bottles and flasks may be included in the £8 8 0 lots. Less than one dozen 11/- bottles are charged at higher rates, and carriage is paid ONLY on the full £8 8 0 order. 1% for cash in seven days.

TABLETS ONLY IN FLASKS

ESPECIALLY CONVENIENT FOR
SPORTSMEN, ATHLETES, CYCLISTS,
TRAVELLERS, AND H.M. FORCES.

**PACKED ONE DOZEN IN CARTON
FOR COUNTER DISPLAY.**

6d. SIZE, 4/6 per doz. £2 10 0 per gross.
1/- SIZE, 9/- per doz. £5 0 0 per gross.

See above for terms and assortments.

Ration Tins 12/6 per doz., plus carriage, for
any quantity.

SOLE MANUFACTURERS :—

**Horlick's Malted Milk Co.,
SLOUGH, BUCKS, ENGLAND.**



THE FLASKS.

HOOKER'S MALTED MILK

"A complete food." — *Lancet*.

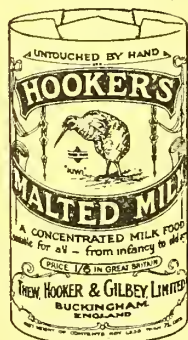
SELLS ENTIRELY ON MERIT.

There is no Higher Quality or Better Value

BRITISH MADE & BRITISH OWNED

DEMAND RAPIDLY INCREASING.

LARGE PROFITS TO SELLERS.



PRICES AND TERMS FROM

THEW, HOOKER & GILBEY, LTD., BUCKINGHAM.

LOFTHOUSE & SALTMER, Ltd.

Wholesale & Export Drug Merchants,
— Manufacturing Chemists —

HULL

Are reluctantly compelled to advance the prices of the following preparations, but, as the protected retail prices are also increased, the Trader's profit is still large.

	P.A.T.A.	Protected Retail Price.	Dozen Net.
*LOSALL'S SALT (well advertised), tins	7½d.		5/-
" " " " " " "	1/2		10/-
" " " " " " bottles in " " cartons	1/6		12/-

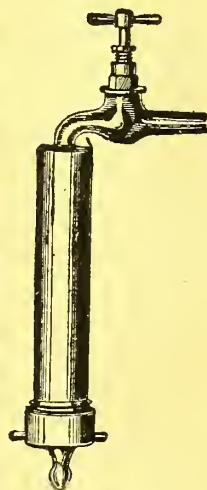
***Losall's Salt sells so well, surely it must pay Pharmacists to stock such a large profit-bearing protected line.**

LOSALL'S COMPOUND SULPHUR SOAP.

A valuable emollient medicated skin soap. } 1/6 12/-
especially suitable for use in Ecema

Chemists requiring effective advertising matter for Losall's Salt, &c., will, on application direct to Lofthouse & Saltmer, receive a liberal supply of Dummies, Showcards, Window Slips, Price Tickets, &c., Carriage Paid, whether or no they have an account open with the Firm.

PURE DRINKING WATER.



**The
Pasteur
Chamberland
Filter.**

OFFICIAL GOVERNMENT
STATEMENT:

Wherever the **PASTEUR
FILTER** has been applied,
TYPHOID FEVER has
disappeared.

WRITE FOR LIST B.

SOLE MAKERS:

The British Pasteur Chamberland Filter Co.
5 WHITE STREET, FINSBURY,
LONDON, E.C.

"Sanaphos and Soda"

AN IDEAL SUMMER BEVERAGE.

To two tablespoonsful of water add about two small teaspoonsful of Sanaphos, stir rapidly with spoon or fork, and fill the tumbler with Soda Water. A large demand has arisen for Sanaphos prepared as above. Recommend this method of preparation to your customers, as a convenient and agreeable way of taking Sanaphos.

Sanaphos is the only easily miscible nerve food.

Sanaphos in large tins expressly packed for retailing as a Summer Beverage can now be obtained. These large tins will be supplied only to chemists, and are not for resale to the public.

CHEMISTS HAVING SODA FOUNTAINS OR DOING A "COOLING DRINK" BUSINESS ARE INVITED TO WRITE FOR SPECIAL TERMS.



Handsomely Lithographed Showcard, Free to Chemists, on Request.

THE BRITISH MILK PRODUCTS CO., LTD.
69 MARK LANE,
LONDON, E.C.



TRADE MARK.

£800 IN PRIZES given annually to users of **R. J. F. & B.'s** preparations.

ESTABLISHED 131 YEARS. R. J. FULLWOOD & BLAND'S

Celebrated Preparations are used and recommended at the principal Dairy Institutes, and have the largest sale in Great Britain.

ANNATTO
Liquid and Cake.
The Strongest and
Brightest.

CHEESE RENNET
Strength 1'1000.
(Liquid, Powder, and Tablets.)

BUTTER COLOUR
"OLEO" and
"SUNBEAM."

PRESERVATIVES
Powder and Liquid.
(Guaranteed Harmless.)

ESS. OF RENNET
Sold in 82. and 1/- bottles.

JUNKET POWDER
Sold in 62. and 34. pots.

JUNKET TABLETS
Sold in 62. tubes.

These preparations are supplied in bulk; also packed with customer's own labels. Kindly allow us to submit Samples and Quotations.

Offices and Manufactory: 31, 33 & 35 BEYENDEN ST., HOXTON, LONDON, N.

"FERROCARNIS"

A pleasantly flavoured solution of iron in organic combination with **BRAND'S Concentrated Raw Meat Juice.**

Ferrocarnis combines the stimulating properties of meat juice with the tonic effect of iron. This product does not cause constipation, and thus affords a means of administering iron to patients who are unable to take ordinary iron preparations.

PREPARED BY

BRAND & CO., LTD., MAYFAIR WORKS,
SOUTH LAMBETH ROAD, S.W.

THE MOST ECONOMICAL INFANTS' FOOD.

FRAME FOOD

ON P.A.T.A. LIST.

SHOWCARDS FREE.

FRAME FOOD CO., Standen Road, Southfields, London.

Do You Sell Sister Luras Food?



The question is often asked nowadays. The Chemist who does not stock Sister Luras Food is missing a good line.

Sister Luras Food is achieving great success as a preparation for weakly babies and for invalids and the aged.

It makes milk digestible and is invaluable in cases of malnutrition.

It is a thoroughly reliable line and one that brings a handsome return.

Price 1/- & 2/6 per tin. Samples and advertising matter free on application.
SISTER LAURAS INFANT FOOD CO., Ltd., 156 Vincent Street, GLASGOW.

PRICES PROTECTED.

Dr. Allinson's Food Preparations.

Food for Babies, Prepared Barley, Brunak, Power, N.-F. Cocoa, Biscuits, Soup, Wholemeal, &c.

NOTICE TO THE TRADE

We issue a list of WHOLESALE HOUSES who keep above in stock; if for any reason you have difficulty in obtaining supplies, please send postcard direct to us, and a list will be sent to you by return. See trade mark on all our goods: "T. R. ALLINSON." None Genuine Without.

NATURAL FOOD COMPANY, LIMITED,
Cambridge Rd., Bethnal Green, LONDON, E. 1

Handbills, Booklets, Showcards, &c., Free.

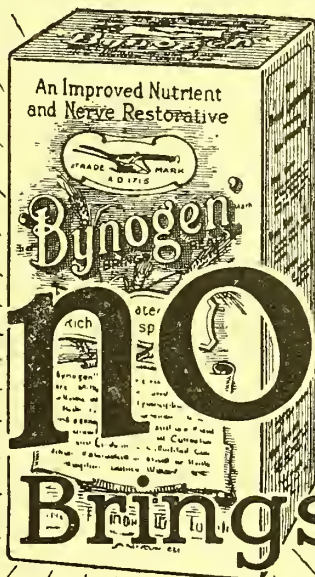
N.B.—Our goods are to be sold only at prices stated upon the Price List we issue to the trade, and we are pleased to exchange any article which may be out of condition.

The Improved Casein-Glycerophosphate Food

‘Bynogen’

Trade Mark

Brings Health



**An Easily Digested
Nerve Food
Rich in Phosphorus**

Composition of "Bynogen."

"Bynogen" is a combination of pure Milk Protein, 75 per cent., and specially prepared Dextrin-Maltose, 20 per cent., with 2 per cent. each of the Glycerophosphates of Soda and Lime, and 1 per cent. of Glycerophosphate of Magnesia.

Uses of "Bynogen."

"Bynogen" is indicated in all Enfeebled Conditions, in Convalescence after Severe Illness, Mental and Nervous Exhaustion due to worry or overwork, Insomnia, Physical Fatigue, Wasting Diseases, Anæmia, Digestive Troubles, etc.

"Bynogen" is very helpful to Nursing Mothers for overcoming the strain caused by breast feeding.

Minimum Retail Prices:
1/9 and 3/- per bottle.

Gross Wholesale Prices:
17/- and 29/- per doz. bottles
respectively.

Allen & Hanburys Ltd.

**A Concentrated
Nutrient
and Restorative**

Advantages of "Bynogen."

"Bynogen" possesses a most attractive flavour and thereby overcomes the objection hitherto experienced in other somewhat similar products.

"Bynogen" strengthens digestion, improves nutrition, and does not cause constipation.

"Bynogen" is delicious when sprinkled on puddings, toast, etc. It mixes readily with milk and other fluids, or it may be eaten plain if desired.

Profit on "Bynogen."

"Bynogen" yields a profit on return of 25% monthly a/c terms. When "Bynogen" forms part of a £5 carriage paid general order for the "Allenburys" Specialities the profit on "Bynogen" is increased to 27½%.

SAMPLES AND DESCRIPTIVE
LEAFLETS FREE ON REQUEST

Lombard St., London.



CAMPAIGN COMFORTS

TEA SUGAR & MILK
TABLETS

Purity & Flavour
Unexcelled.

Retails at 7½d.

6/- doz.

70/- gross.

COCOA SUGAR & MILK
TABLETS

Sustaining,
Stimulating.

Retails at 8½d.

6/9 doz.

79/- gross.

COFFEE SUGAR & MILK
TABLETS

Delicious and
Satisfying.

NO CHICORY.

Retails at 10½d.

8/- doz.

94/- gross.

LEMONOIDS
(TRADE MARK)

Thirst Quenchers.

Retain their acidity throughout. Fine, clean flavour, and in great demand.

Boxes of 30, 4/- doz.

Boxes of 60, 7/6 doz.

COMPRESSED
TEA TABLETS

Finest Tea and
Nothing Else.

NO STALK, WASTE
OR DUST.

50s. retail at 7d.

5/3 doz.

60/- gross.

MALTED WHEAT
TABLETS

Nourishing and
Sustaining.

Overcome Hunger, Thirst and Fatigue.
Creates Energy.

Boxes of 30, 4/3 doz.

Boxes of 60, 8/- doz.

THE GLOBE TABLET & MANUFACTURING CO.,
NUNHEAD GREEN, LONDON, S.E.

TELEPHONE
NEW CROSS 115.

To Aerated Water Manufacturers.

DELICIOUS AERATED BEVERAGES

ARE MADE FROM

HAY'S ESSENCES

Cream Soda Essence,

Cream Raspberry Essence

Cream Strawberry Essence

Peach Ripe Essence, Orange Squash Essence.

Claret and Lemon Essence,

Cherry Cider Essence,

Lemon Squash Essence (BRIGHT or CLOUDY)

Lime Squash Essence.

Lime Juice and Soda Essence,

Orange Champagne Essence,

Kola Champagne Essence, and

"Pale Dry" Ginger Ale Essence.

SAMPLES AND FULL DIRECTIONS FOR USE FREE ON APPLICATION.

ATTRACTIVE LABELS AND SHOWCARDS SUPPLIED.

Orders for Two Gallons and upwards of Essence may be shipped under bond.

Indentors when ordering should specify HAY'S manufacture.

WILLIAM HAY, Ltd. ESSENCE DISTILLERS HULL & LONDON.

Head Office and Laboratories—HULL, Eng.

London Depot—3 YORK ST., WALWORTH, S.E.

Telegraphic Address { "Bushworth London."
"Hay, Limited, Hull."

National Telephone { London, No. 2753 Hop.
Hull, No. 488.

Code : A B C, 5th Edition.



Saint-Raphael

Tonic, Restorative,
Digestive Wine.

Known throughout the World
and prescribed in all cases of
**ANÆMIA, DEBILITY, and CON-
VALESCENCE, to Young Women,
Children, and the Aged.**

DOSE: One Wine-glass after the
two principal Meals.

Recommended by—
PROF. BOUCHARDAT, Professor of Hy-
giene, Paris Faculty of Medicine.
DR. MACNAUGHTON JONES, London,
England.

"For more than thirty years St. Raphaël Wine has been
exclusively prescribed, with success, in the Paris hospitals
as a pure tonic, by eminent physicians, such as Magendie
Rostan Chomel, Velpeau, Requin, Monneret, Trousseau,
Grisolle, Laënnec, &c."—*Union Médicale*, May 8 and
June 12, 1873.

"The 'Vin de St. Raphaël' is often used for ladies
nursing their own children; it is preferable to stout, which
creates an unhealthy fat."—*The Lancet*, London, England.

"St. Raphaël Wine is most precious in all cases where
it is necessary to give tone to the system, without effort
or shock."—DR. C. DES BARRES.

Cle du VIN SAINT RAPHAEL, Valence, Drome,
FRANCE.

To be obtained from all
Wholesale Druggists.



TWO NEW LINES

AT PROTECTED PRICES.

"CONOREX" The up-to-date remedy for Gonor-
rhoea in all stages of the complaint.
(Capsulæ Co. M. & J.) It neither nauseates nor causes diges-
tive derangement. An ideal counter
line.

Trade price, 27/- doz net; Min. Retail, 3/-.

"LIQUID IODEX" Consisting of an "M. & J."
ATOMIZER OUTFIT Atomizer and Bottle of Liquid
Iodex in Convenient Case,
Ideal for use in Catarrh, and
other naso-pharyngeal con-
ditions.

Trade price, 48/- doz. net; Min. Retail, 5/-.

MENLEY & JAMES, LTD.,

Manufacturing Chemists,

"MENLEY HOUSE," FARRINCION ROAD, LONDON, E.C.



Sells readily ALL the time.

COLIMAN & CO., Ltd., Wincarnis Works, NORWICH.

IMPORTANT NOTE

**TO CHEMISTS
WITHOUT LICENCES**

It has been established
by law that Registered
Chemists may sell
"Wincarnis with
Quinine" without a
licence.

**ALL CHEMISTS
SHOULD STOCK**

ABDINE

THE GOLD MEDAL FRUIT DRINK.
Quick Seller. Big Profits. Quarter of a Century's Reputation.
"ABDINE" is the most popular Health Drink. Superior to all Mineral
Waters. Sold in 1d. Packets, and Boxes of 13 Packets at 1/-
Order through your Wholesale Drug House.
D. M'CLASHAN, M.P.S., Abdine Works, Westfield Road, EDINBURGH.
Wholesale Prices on Application.

THE NOTED HOUSE FOR
RUBBER TUBINGS
RUBBER HOT WATER BOTTLES
RUBBER GLOVES
WATERPROOF AND OILSKIN COATS
ELASTIC HOSIERY
ANYTHING IN RUBBER
THE ALTRINCHAM RUBBER COMPANY
MOSSBURN BUILDINGS, ALTRINCHAM.

A. MILLAR & CO., LTD., DUBLIN PURE ORANGE WINE

(VINUM AURANTII B.P.)

Prepared in strict accordance with the Formula of the British Pharmacopœia.
London Agent: JAMES STIRTON, 43 GREAT TOWER STREET, E.C.

(Wholesale only)

Why Sell GERMAN or
AUSTRIAN WATERS?



Tonalka

Is the British
Aperient Water

which yields you
a Good Profit.

Special Bonus offered to Chemists
giving a WINDOW DISPLAY.

Wholesale Price - 6/6 per doz. net.

(Delivered Free in London District).

1/- per doz. allowed on Bottles when returned.

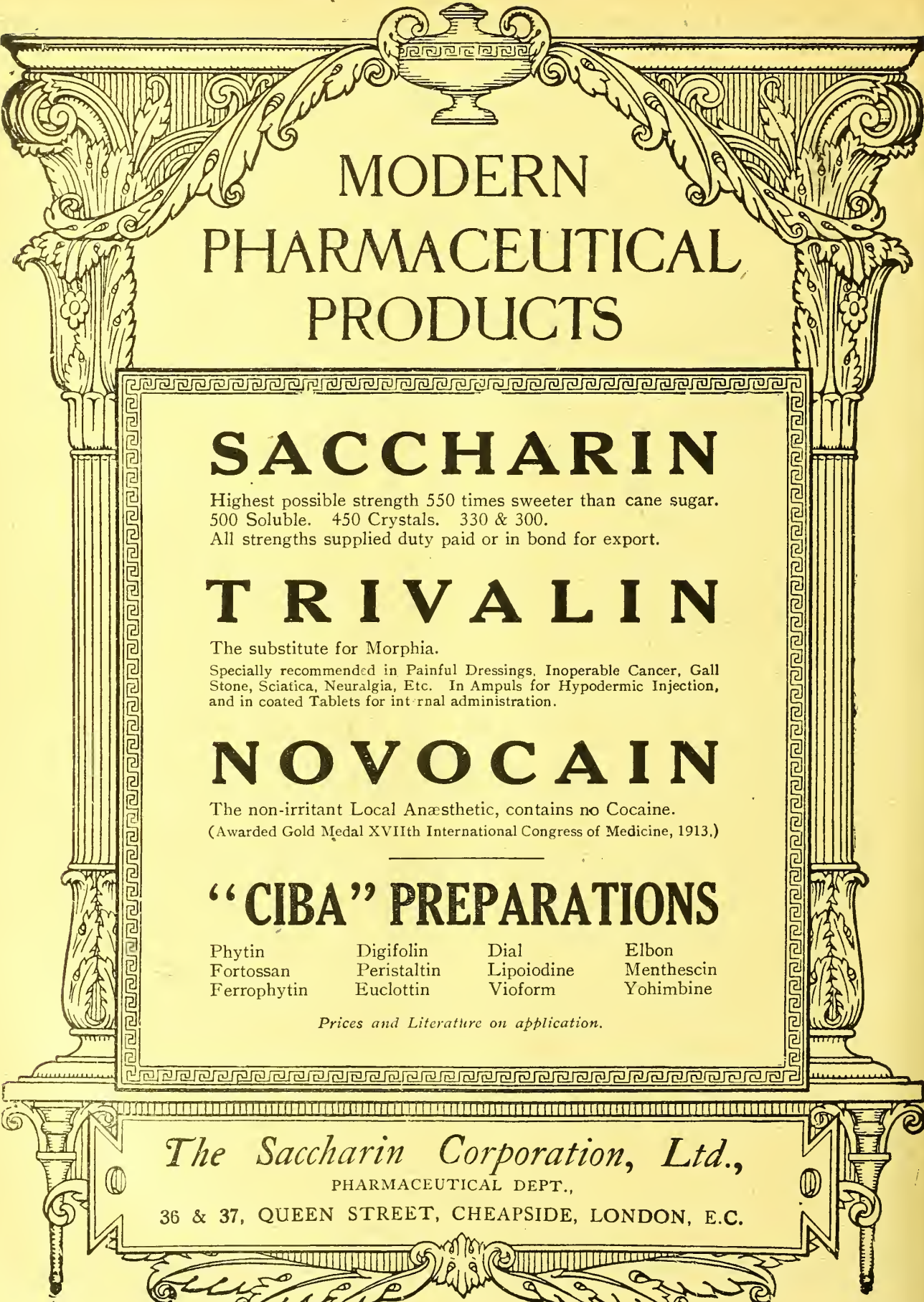
Minimum Retail Price - 11d. per bottle.

(P.A.T.A.)

IDRIS & CO., LTD.

PRATT STREET,
CAMDEN TOWN, N.W.

BRANCHES—LIVERPOOL, SOUTHAMPTON, CANTERBURY.



MODERN PHARMACEUTICAL PRODUCTS

SACCHARIN

Highest possible strength 550 times sweeter than cane sugar.
500 Soluble. 450 Crystals. 330 & 300.
All strengths supplied duty paid or in bond for export.

TRIVALIN

The substitute for Morphia.

Specially recommended in Painful Dressings, Inoperable Cancer, Gall Stone, Sciatica, Neuralgia, Etc. In Ampuls for Hypodermic Injection, and in coated Tablets for internal administration.

NOVOCAIN

The non-irritant Local Anæsthetic, contains no Cocaine.

(Awarded Gold Medal XVIIth International Congress of Medicine, 1913.)

“CIBA” PREPARATIONS

Phytin	Digifolin	Dial	Elbon
Fortossan	Peristaltin	Lipoiodine	Menthescin
Ferrophytin	Euclottin	Vioform	Yohimbine

Prices and Literature on application.

The Saccharin Corporation, Ltd.,

PHARMACEUTICAL DEPT.,

36 & 37, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

There is always a quick sale for pure sweetmeats—

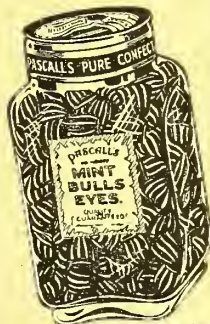
both for those with medicinal and special nutritive qualities, and for popular confectionery of a wholesome and palatable character.

Chemists who do not hold a representative stock of Pascall's famous specialities are losing profitable business. Customers who buy Pascall's come back for more.

Packed for Export in screw-cap Jars, air-tight decorated Tins, and in special Boxes.

Pascall's for Purity

Your Chocolates and Sweets must be absolutely pure—**always ask for "Pascall's,"** and look out for the Pascall box or Pascall label. For exquisite daintiness of flavour, and wholesomeness and excellence of quality, "Pascall's" Chocolates and Confectionery are the best a modern, scientific and hygienic British factory can produce.



Pascall's original square jar

Among the favourite "Pascall" specialities are the original old-fashioned **Mint Bull's Eyes & Barley Sugar** manufactured by up-to-date methods which ensure absolute reliability.



A few varieties of "Pascall" Chocolates
 "Countess" | "Furzedown"
 "Royal Taste" | "Domino"
 "Bitter Sweets"

Hooray!

"Doctor told Mummy I needn't have any more of that old cod-liver oil if I'd take Pascall's Golden Maltex! I should just about think I would! They're the rippingest sweets I ever tasted."



Doctors do in fact recommend Pascall's Golden Maltex instead of Cod-liver oil. They know that

this pure Food-Sweet makes children strong.

For in every golden "cushion" in the Pascall bottle there is 25 % of Allen & Hanbury's pure malt extract, scientifically combined with refined sugar and pure butter to make a Food Sweet of great strengthening and health-sustaining value. Every time you give a child Pascall's Golden Maltex you are doing something to make him sturdier and bonnier. Get some to-day.

PASCALL'S GOLDEN MALTEx

4 ozs. 3½d.; 6d. & 1/- bottles.

Golden Maltex Bonbons, in tins, 6d.

S.H.B.

James Pascall,
 Ltd.,
 London, S.E.

CITY EXPORT OFFICE:

J. L. Morrison, Son & Jones, 20 Eastcheap, E.

Mitchell's Corks make Chemists talk



FROM one end of the world to the other, Chemists keep writing to tell us how pleased they are with our Corks. One says they "give no trouble"; another says they "save bad language"; another says, "never seen anything to touch them for *value*," and so we might go on.

There is a reason for all this. To some firms their Cork Bill is like a thief in broad daylight, robbing them week after week, because of the never-ending waste caused by such frequent breakages. No wonder then "Chemist talks to brother Chemist."

Send your order along *without delay*. If it's small, we shan't mind; and if it's a real large one, well, it'll receive just the same careful attention!

6 and 8 oz. Corks, 1 in. long.

For INSURANCE DISPENSING ...	N.I. quality ...	4½d. per gross	} + 10% WAR ADVANCE.
	Spanish, 2nd quality	6d. " "	
For ORDINARY DISPENSING ...	Spanish, 1st quality...	7d. " "	
	G.A.O. quality ...	9d. " "	
	Spanish Super ...	11d. " "	}
For HIGH-CLASS TRADE ...	S.C.E. quality ...	1/3 " "	

10/- worth delivered free British Isles.

2½ per cent. prompt cash discount on £1 and over.

N. W. Mitchell & Sons, Ltd.
"The Cork Firm," Limehouse, London, E.

WHEN YOU WANT—



Packed in 4-lb. Boxes and
4-ounce packets with

**HANDSOME SHOWCARDS FOR
WINDOW DISPLAY.**

A GOOD
SPRING LINE

WRITE US

for Samples and Prices of

**Fig,
Senna and Sulphur
Tablets.**

THOS. GUEST & CO., LTD.

Manufacturing
Medicated Confectioners,

ANCOATS, MANCHESTER

PERFECT PHOTOGRAPHIC EMULSIONS
depend on the purity of their
ingredients.

NITRATE SILVER

is the most important of these, and
it happens also to be very sensitive
to contamination.

A wide margin of safety has there-
fore always been our principle in
manufacturing it. Firstly, throughout
the whole of our processes we use
exclusively vessels made of Gold and
Platinum. Secondly, all our first
crystals are twice redissolved and
recrystallised. Thirdly, every batch
of final crystals is tested before
passing into our stock.

Our guarantee of highest purity is
thus assured.

Competitive Quotations on request.

Mark Indents "Johnson, Matthey's."

None genuine if not labelled with
our name and Trade Mark.

Cables—"MATTHEY LONDON"

(all Codes used).

Telephone—9740 CITY (6 lines).

JOHNSON MATTHEY & CO. LTD.

MELTERS & ASSAYERS
TO THE BANK OF ENGLAND
74 to 81 HATTON GARDEN
LONDON E.C.



CLINICAL THERMOMETERS.

Best Quality at Lowest Prices

WRITE FOR PRICE LIST.

40 DIFFERENT KINDS.

Special Quotations to Wholesale Buyers

THE
"MATER"

LENS FRONT (Regd.)

CLINICAL THERMOMETER.

P.A.T.A.

MERCURY COLUMN SEEN AT A GLANCE.

Made in Two Rapidities, 1 Minute and $\frac{1}{2}$ Minute.

New Price List of Thermometers for
every purpose, post free.

PERKEN, SON & CO. LTD.

ESTABLISHED 1852.

Contractors to H.M. Government.

99 Hatton Garden, LONDON.



SHOPFITTINGS, SHOWCASES, SIGNS, &c., &c.

Of Best Quality, Excellent Style,
High-class Finish, at Lowest Prices.

SHOPS MODERNISED. ESTIMATES FREE.

Competent Fitters sent to all parts.

AYRTON-GRAHAM, Ltd., 106 DUKE STREET,
LIVERPOOL

CHEMISTS' SHOPFITTINGS

WANTED.—Every Chemist requiring Shopfittings
to send for my estimate; you can't do better. I shall
be pleased to send you rough sketches free on
receipt of particulars. Over 30 years' experience.

Glass Showcases, Drugfittings, Dispensing Screens,
Window Enclosures, Glass Shelves, Wall Cases,
Perfume Cases, Plate Glass Front Counters, Drawers,
&c., at lowest prices.

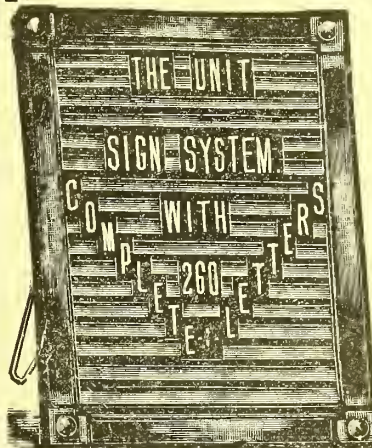
NOTE ADDRESS—

GEORGE COOK,

The Chemists' Working Shopfitter,

29 MACCLESFIELD STREET, CITY RD., LONDON, E.C.

The Silent Salesman



A sign that
will increase
sales should
be of interest
to the up-to-
date chemist.

Used in con-
junction with
a few Oak
Pedestals
and shelves,
your window
can attain
the same high
efficiency as
the largest
store.

Leaflets free
on request.

Many Chemists testify to the increased business
that results from an "open display" with Pedestals.
Why not have your share? We are actual manufac-
turers, from display fittings to shop fronts, with
over a century's reputation.

Saml. HASKINS & Bros.,
Ltd.

SHOPFITTERS :: ESTAB. 1784.
20-34 OLD STREET, LONDON, E.C.

No. 77 BRITISH Eau de Cologne



In Square Bottles

2 oz.	...	11/- doz.
4 "	...	21/6 "
8 "	...	41/6 "

In Wickered Bottles

$\frac{1}{2}$ pint	...	34/6 doz.
1 "	...	65/- "
2 "	...	122/- "

Write for Samples.
Showcards supplied.



MANUFACTURED ONLY BY

WILLIAM TOOGOOD, Ltd.,
77 Southwark Street, London, S.E.

NULOMOLINE THE HONEY OF SUGAR NULOMOLINE

and the Lost Arts

GLYCERINE was unknown in ancient Egypt, yet some of the old Egyptian Remedies are even now recognised equal to many of our preparations made with Glycerine.

WHAT DID THEY USE ?

GLYCERINE was unknown in ancient Rome, yet the Romans excelled in many of the arts for which to-day Glycerine is considered indispensable.

WHAT DID THEY USE ?

GLYCERINE was unknown in the Middle Ages, yet lives were lost and fortunes made in the quest of the fine silks of India, textiles unequalled by our modern products in the manufacture of which Glycerine is employed.

WHAT DID THEY USE ?

They all used HONEY !

Honey in all its impurity and crudeness was used in making goods that have never been equalled.

The Lost Arts Revived

NULOMOLINE, the Honey of Sugar, is the link between the old and the new, between Honey and Glycerine.

NULOMOLINE is taking the place of GLYCERINE in hundreds of different products at a fractional cost.

We will supply an Analysis upon request.

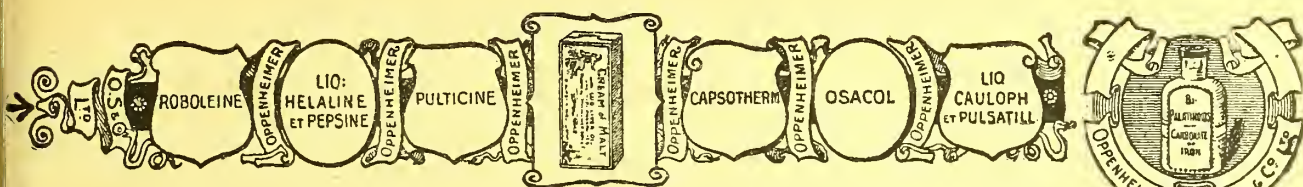
Write for further information and samples to

FREDK. BOEHM, Limited

16 JEWRY ST., LONDON, E.C.

(Sole Agents for the U.K.)

THE NULOMOLINE COMPANY,
New York, U.S.A.



Personal Chats on Salesmanship.—No. 4.

PUSH.

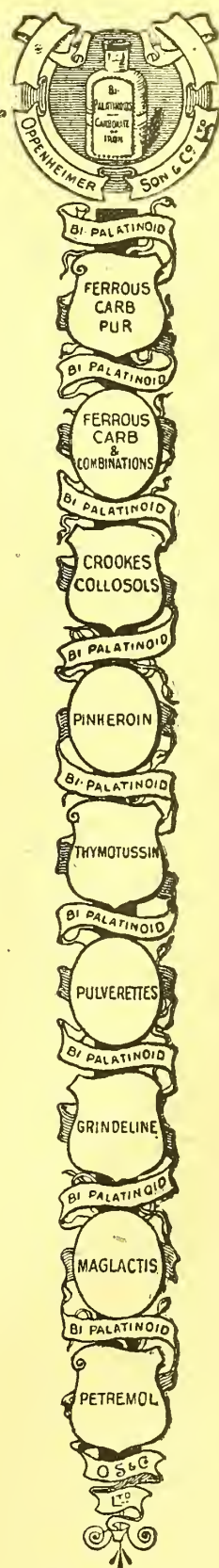
Every salesman should cultivate "Push," but to sell customers what they don't want is not pushing but bad business. Successful pushing consists in being on the alert for any opportunity, and when it comes, creating a desire by interesting facts and suggestion and at the psychological moment clinching the sale.

Your weighing machine furnishes many opportunities for pushing. Poor weight—Roboleine. You know what it contains—Red Bone Marrow, Calves' Rib Juice, Extract of Malt and Hypophosphites—know there is nothing better, and that repeated sales always follow; BUT do you know that Window Display Terms yield 65% profit? Worth a P.C. to inquire, isn't it?

P.A.T.A. 1/- 2/9 and 5/-

OPPENHEIMER, SON & CO., LTD.,
179 Queen Victoria Street, LONDON, E.C.

ENTIRELY BRITISH HOUSE SINCE FOUNDATION



THE BRITISH DRUG HOUSES

LTD

B. D. H.

CHEMICAL

Acetannin.
Barii sulphas "X-Ray."
Bismuth tartras (soluble).
Bismuth tribromphenol.
Glucose (pure anhydrous).

Benzoates.

Ammon. benz.
Caffein. sodiobenz.
Sodii benz.

Citrates.

Lithii citras.
Potassii citras.
Sodii citras.
Ferri et ammon. cit.
Ferri et quin. cit.

Formates.

Calcii formas.
Potassii formas.
Sodii formas.

Lactates.

Calcii lactas.
Calcii lactophosph.
Ferri lactas.
Magnesii lactas.
Strontii lactas.
Zinci lactas.
Calcii phosphas (P.B. '14).
Calcii phosphas (di-acid. cryst.)
Calcii phosphas (mono-acid).
Calcii saccharas (soluble).

PRODUCTS

Glycyrrhizin ammon.
Phenazon. caffein. cit.
Phenazon. salicylas.
Thymol iodid.
Urea quin. hydrochlor.

Salicylates.

Acid salicylic cryst.
Acid salicylic phys. pur.
(large cryst.)

Sodii salicylas pulv.
Sodii salicylas P.P.P.
Acid acetylsalicylic.
Calcii acetylsalicylas.
Lithii acetylsalicylas.
Sodii acetylsalicylas.

Sodii phosphas P.P.P.

Pea cryst.
"Feathery" cryst.
Sodii phosphas acid.

Sodii sulphas P.P.P.

Pea cryst.
"Feathery" cryst.
Sodii sulphas acid.

Ferri carb. sacch. (P.B. '14).
Ferri phosph. sacch. (P.B. '14).
Zinci chlorid. (sticks).
Zinci oleostearas.
Zinci stearas.
Zinci sulphas.

See also our special announcement on page 124.

22-30, Graham Street, City Road, LONDON, N.

THE BRITISH DRUG HOUSES

B.D.H.

PACKED SPECIALITIES

Avon Bath Tablets.
Brilliantine, non-oily.
*Buxton Liver Salt.
Capsules.

*CARBONIC ACID BATHS

*Carlsbad Salt (Squirrel).
Citrate of Magnesia.
Chemical Food.
Cod Liver Oil Emulsion.
*Eau de Mente (Dalmahoy).

*EASTERN FOAM.

Elixir of Raspberries.

*ESVACH WATER.

Eucalyptus Oil (Blue Finch).
Ferribyn.

*FICOLAX.

*FROZEN FOAM.

Hair Dyes.

*HEROCEN FOOD.

*Herogen Biscuits
Hydrocresyl.
Infants' Food.

INTERNOL.

Jellax.
Nursery Jellax.
Liquiderm.
Lozenges.

LYSOL, B.D.H.

Malt Extract.
Malt and Cod Liver Oil.
Marking Ink (Kaffir).

NUFER.

Olive Oil (Delectable).

*OTANGO.

*Peptrochettes.
Perfumes.
Pills.
Salines.

*SANUSIN AND OTHER "SEMPULES."

Shaving Powder.
Sugar of Milk.
Syrup of Figs (Hodgkinsons').
Tablets.

*URO-HEXOIDS.

Valogen (Casein Food).
VETERINARY REMEDIES.

(See special list.)

*On the P.A.T.A.

22-30, Graham Street, City Road, LONDON, N.

'TABLOID' BRAND First-Aid

TRADE MARK



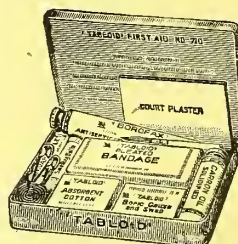
**FOR USE IN
EMERGENCIES**

AMPLE SELLING ARGUMENT

LOSE no opportunity of impressing upon your customers the wisdom of equipping themselves with a 'TABLOID' FIRST-AID. Remind them of its value, in case of a raid.

The series of Outfits range from the neat little pocket-case, No. 710, to the elaborate equipment for factories, mills, works, etc., No. 740.

— See B. W. & Co.'s List



**No. 710 'TABLOID'
FIRST-AID**

Measurements: $4 \times 3\frac{1}{8} \times \frac{5}{8}$ in.

Provides antiseptic dressings for slight injuries, restorative, etc., in scarlet enamelled metal. Ideal pocket-outfit for individual use.

Price 2/6, subject



BURROUGHS WELLCOME & Co.
LONDON

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See 3 following pages.

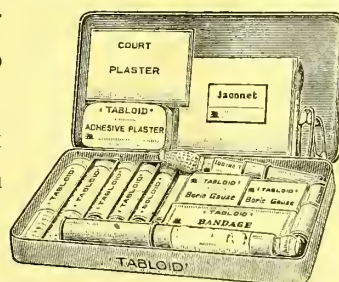
‘TABLOID’^{MARK}

TRADE BRAND

Medicine Pocket Case No. 109

EVERY SOLDIER A PROSPECTIVE BUYER

This Outfit was specially introduced to meet the needs of military men during the war. It has a large sale and is much appreciated. It forms an ideal gift for friends at home to send out to the front. A specimen Outfit should be shown prominently and every opportunity taken of introducing it to visitors to your pharmacy.



‘Tabloid’ Medicine Pocket-Case
No. 109

Measurements: $6\frac{1}{4} \times 3\frac{1}{4} \times \frac{7}{8}$ in.
Black Janned Metal case
containing emergency dressings,
medicaments, restoratives, etc.

Price 7/6, subject



BURROUGHS WELLCOME & CO., LONDON

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COPYRIGHT

'TABLOID' BRAND TEA

TRADE MARK AND

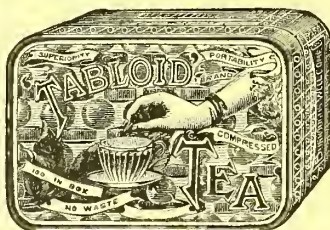
'TABLOID' BRAND 'SAXIN'

TRADE MARK



MOST ENJOYABLE—AND PROFITABLE

Are you selling these two lines? If not, you are missing excellent war-time business. Look at the products; their extreme compactness and portability make them ideal for use in the Field. As to quality, 'TABLOID' TEA is delicious, especially when sweetened to taste with 'TABLOID' 'SAXIN.' Offer them.



Reduced facsimile

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THE CHEMIST & DRUGGIST



Summer Issue JULY 29, 1916.



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The "C. & D. Diary," 1917.

Owing to certain industrial conditions due to the war this *Diary* is now in preparation. The war has not diminished our circulation, and we have to meet difficulties associated with ante-bellum requirements in labour, material, and time. Production of the *C. & D. Diary*, 1917, will involve as much work as before, and in order to ensure posting copies of it by the November Colonial mails we must go to press before the end of September. We ask advertisers to assist us with their friendly co-operation, especially by forwarding copy and instructions without delay. Instructions regarding space should be given to The Publisher, "The Chemist and Druggist," 42 Cannon Street, London, E.C.

European War News.

Prohibited Exports and Imports.

BULGARIA.—According to a decree of May 22, the prohibition of exportation of anise, anise oil, and mustard-seed from Bulgaria is revoked. At the same time, the Excise officials have been informed that exportation of almonds, rose-water, otto of rose, hempseed, cardamoms, saffron, and ergot from Bulgaria is allowed.

GERMANY.—According to a decree of July 6, the importation of ammonium carbonate is prohibited.

SWEDEN.—Bicarbonate of soda has been placed on the list of prohibited exports.

ENEMY BLACK-LIST.—Among the enemy firms in the United States with whom trading is prohibited are Beer, Sondheimer & Co., New York; Roessler & Hasslacher Chemical Co., New York; Siemssen & Co., New York. The first United States list published in the "London Gazette" contains the names of eighty-five firms.

Contraband or Suspected Goods.

The following continues the gazetted list of drug-trade goods which have been seized under the Customs laws as being of suspected enemy origin. The nature of the goods is first mentioned, then the consignors (1) and the consignees (2):

Pharmaceutical Preparations.—(1) A. E. Melster, Rotterdam; (2) F. Bayer & Co., Santiago; E. de Laroque, Guatemala; C. Bohmer, Habana; M. Freundlich, Panama; F. Wiss, San Jose.

Photo Articles.—(1) Burger & Zoon, Rotterdam; (2) V. Hermanos, La Paz, Bolivia. (1) C. Lassens Filial, Copenhagen; (2) Lutz Fernando & Co., Buenos Aires. (1) E. Stephensen, Copenhagen; (2) Schutz & Co., Semarang, Java.

Photo-paper.—(1) C. Lassens, Copenhagen; (2) Danavaro & Co., Montevideo; Banco Aleman Transatlantic, Valdivia. (1) A. Larsen, Copenhagen; (2) Rossi & Lavarilla, Buenos Aires.

Powder-puffs.—(1) H. Miede & Co., Copenhagen; (2) E. Liguero, Guatemala.

Resalidal Tablets.—(1) A. E. Melster, Enscher, E.; (2) Bang & Co., San Salvador.

Salvarsan.—(1) Konenlinke Pharmaceutisch, Amsterdam; (2) The Pharmacy, Singapore. (1) C. Krarup, Copenhagen; (2) Farmacia y Brogueria, Habana.

Silk Goods and Medicines.—(1) H. Miede & Co., Copenhagen; (2) W. O. Thomsen, Valparaiso.

Sneeze-powder.—(1) Wessoe, Copenhagen; (2) M. F. Alves Rejo, jr., & Co., Lisbon.

Surgical Instruments.—(1) C. Nykops Etabl, Copenhagen; (2) Dr. Wille, Semarang, Java.

Synthetic Perfumes.—(1) Wessoe, Copenhagen; (2) H. Peters, Buenos Aires.

Thermometers.—(1) H. Miede & Co., Copenhagen; (2) A. Martorell & Co., Lisbon.

Toilet-soap.—(1) E. Stephensen, Copenhagen; (2) G. Reder, Madrid.

Tooth-brushes.—(1) Adams Express Co., Copenhagen; (2) Compondardo Hermanos, Habana. (1) M. P. Henrichsen, Copenhagen; (2) M. Sabascaly Ruiz Sen, Seville. (1) E. Stephensen, Copenhagen; (2) A. Mezia & Co., Maningalls, Colombia. (1) E. Malling, Copenhagen; (2) M. Matliez & Co., Buenos Aires.

Tooth-paste.—(1) W. Hansen, Copenhagen; (2) Resdrego & Pelaez, Rep. de Colombia. (1) Dr. Karl Hermann, Karlsbad; (2) B. Meindersmas, den Haag. (1) H. Miede & Co., Copenhagen; (2) Farmacia y Drogueria de M. Johnson, Habana.

(To be continued.)

English and Welsh News.

Subscribers are invited to send to the Editor newspapers containing matters of trade interest. The items should be indicated.

Labelling of Medicated Wines.

The Central Board of Control has issued an amending order giving effect in part to the recommendations made to them by the manufacturers of medicated wines (*C. & D.*, July 22, p. 42). The matter of liability is to be postponed from August 7 until October 9, according to the following:

GENERAL ORDER (AMENDING) OF THE CENTRAL CONTROL BOARD (LIQUOR TRAFFIC) RELATING TO THE SALE OF MEDICATED WINES.

We the Central Control Board (Liquor Traffic) in pursuance of the powers conferred upon us by the Acts and Regulations relating to the Defence of the Realm hereby make the following general Order:

The following provision shall be inserted in any Order of the Board which has been made with reference to the sale of medicated wines:

"Provided also that in any case where such medicated wine or mixture or preparation is sold or supplied in a bottle or other vessel enclosed in a sealed packet and is so sold or supplied at any time before the 9th day of October, 1916, it shall be deemed to be a sufficient compliance with the terms and conditions of this Order if such sealed packet bears such label."

Given under the Seal of the Central Control Board (Liquor Traffic) this twenty-fourth day of July, 1916.

Mr. W. Johnston, Secretary of the C.D.A., informs us that Coleman (Norwich), Fletcher, Fletcher & Co. and Stephen Smith & Co. are prepared to supply, on request, labels to holders of stocks of their wines to affix to the outer cartons or wrappers. Burroughs Wellcome & Co. also inform us that they are now supplying "Bivo" preparations, "Vana" Tonic Wine, and "Panopepton" with labels indicating the amount of proof spirit in each. Those who hold stocks of any of these should tell the firm how many labels they require.

Contracts for Drugs, etc.

Egham Urban Isolation Hospital.—Mr. T. R. Millmann, chemist and druggist, drugs for six months.

Hertford and Ware Joint Hospital Board.—Mr. J. H. S. Lewis, chemist and druggist, medical sundries for three months.

Weymouth Borough Hospital.—Mr. M. T. Evans, chemist and druggist, drugs, hospital dressings, etc., for three months.

Institute of Chemistry Examination Results.

Five candidates passed the Intermediate examination in London this month—viz., A. C. Francis, Miss P. L. Garbutt, A. J. Hall, B.Sc. (Lond.), H. J. Hegan, B.Sc. (Lond.), and J. Sandilands. Nine candidates passed the Final (A.I.C.) examination—viz., mineral chemistry: E. G. Macintyre, B.Sc. (Glas.), and A. Stewart, B.Sc. (Glas.); organic chemistry: P. J. Brannigan, M.Sc. (Q.U.B.), T. Hopkins, B.Sc. (Lond. and Wales), D. Madden, A.R.C.S.I., James Ogilvie, B.Sc. (Edin.), and E. E. Wells, B.Sc. (Lond.); chemistry (and microscopy) of food and drugs, fertilisers and feeding-stuffs, soils, and water: H. E. Cox, B.Sc. (Lond.), and T. L. McEwan, B.Sc. (St. Andrews). One Fellowship candidate also took the chemistry of food and drugs, and passed: J. Wood, M.A., B.Sc. (Aberd.).

The Hapton Poisoning Case.

The inquiry regarding the death of Dr. J. R. Shotton, Hapton, near Burnley, which was adjourned on June 29 (see *C. & D.*, July 8, p. 36), was resumed on July 20. An analysis of the stomach-contents had revealed the presence of $\frac{1}{2}$ gr. of strychnine. Deceased obtained $\frac{1}{2}$ lb. of liq. strychninae from Mr. Wm. Taylor, chemist and druggist, Padiham, who supplied it in an unlabelled bottle. It was suggested on the previous occasion that deceased intended to ask for liq. morphinae, and took a quantity of the solution thinking it was liq. morphinae. On the other hand, some of the witnesses suggested that the chemist had made a mistake, but the chemist denied that he had been negligent beyond supplying the poison unlabelled. Dr. Shotton's young son, Dr. Dharmavir (Padiham), Dr. Jackson (Nelson), and Mrs. Shotton gave evidence. Mr. Taylor also gave further evidence, adding that 20 per cent. of the prescriptions of the present time contain strychnine as an ingredient. The Coroner put the following three questions to the jury: (1) Did the chemist make a mistake and supply deceased with strychnine when he asked for morphine? (2) If the chemist did not make a mistake, did deceased make a mistake and think he was drinking morphine when he was drinking strychnine? (3) Did deceased drink strychnine knowing it to be strychnine, and so commit suicide? There was nothing, he said, in the evidence to show he committed suicide. It was emphasised that

deceased asked the chemist not to put a label on. The Coroner asked if the jury found the chemist had made a mistake in supplying strychnine instead of morphine. The foreman said they were not unanimous on that point. At the Coroner's request the jury further considered the question, and after fifty-five minutes' deliberation their verdict was: "That deceased drank a quantity of strychnine by mistake, but there is not sufficient evidence to satisfy us as to the exact circumstances under which he came to make such mistake."

London Pharmacists' Bowling Tournament.

The second match of this tournament, organised by the "Script" Sports Club, was played at Poplar on July 20 between teams representing the Eastern and South-Eastern Associations. The teams and scores were as follows:

EASTERN.		SOUTH-EASTERN.	
1. Mr. Goode	} ... 21	1. Mr. Sayers	} ... 25
2. Mr. Coulton		2. Mr. Sinclair	
3. Mr. Wood		3. Mr. Tugwell	
4. Mr. Wilson		4. Mr. Winzer	
1. Mr. Abelson	} ... 19	1. Mr. Foulsham	} ... 21
2. Mr. Angus		2. Mr. Milner	
3. Mr. Styles		3. Mr. Siddle	
4. Mr. Keith		4. Mr. Ralph	
	40		46

At the conclusion of the game the teams took tea at the Eastern Hotel.

Birmingham.

Pharmacists are being so hard pressed by business under present restricted conditions of labour that Wednesday afternoon and week-end rests are becoming more and more essential and very welcome.

A correspondent of the "Midland Medical Journal" suggests that "German measles" should be a thing of the past and the name "Rubella" used for the disease. This could easily be done if only the governing bodies of the medical profession would issue a hint to all practitioners.

A writer in the "Birmingham Daily Post" states that for the past four years in the Black Country towns of West Bromwich, Wednesbury, Oldbury, and other parts the habit of taking cocaine snuff in large quantities has grown to an alarming extent. It is sold in minute bottles at 10d. each, and it is a common thing to find a man using three or four bottles a day.

Quite an interest is being taken in the question of growing herbs in the Midlands, and several local botanists are searching for localities where belladonna, henbane, hemlock, and digitalis grow favourably. There are many places in Gloucestershire where the first grows, and one gentleman has observed that the plants are nibbled by animals, but whether sheep or rabbits he was not able to say.

Liverpool.

"I am doing the work of three men," was the declaration this week of a central pharmacist whose staff has been depleted; and his words soon found an echo from several other chemists in business.

The adequate supply of petrol, or of a substitute, is exciting much attention in the wholesale drug and other commercial circles where delivery, save by motor-vans, cannot be effected. Many minds are at work upon the problem, and the prospect of a new branch of manufacture is in the air.

A middle-aged pharmacist, who has just returned from a short holiday, states that while in North Wales he entered a pharmacy and bought picture-postcards. He experienced a curious sensation on first finding a pharmacy without a male attendant. The proprietor had left the shop in charge of two female assistants.

Following upon a Conference addressed last week by eminent London and Liverpool venereal specialists, the City Council is formulating a scheme for evening clinics at general hospitals, to which sufferers of either sex may resort without fear of an inquisition. The proposal seems to have the support of leading pharmacists and students of medical jurisprudence.

"Herbs, medicinal and for the distillation of perfumes," formed the subject of a *C. & D.* representative's interview this week with Mr. Herbert Evans, of the laboratories of Evans Sons Lescher & Webb, Ltd. He has had considerable correspondence on the subject with the League of United Irishwomen, Dublin, and other ladies, who propose to collect or to cultivate the herbs recently supplied too exclusively by Germany and Austria-Hungary. Mr. Evans pointed out that the three essentials for herbal collection are skilled supervision, organisation, and cheap labour. He thinks the organisations of Girl Guides and Boy Scouts,

as well as disabled soldiers, could be utilised. He commends for the preliminary study of intending collectors and cultivators Leaflet No. 238, issued post-free by the Board of Agriculture and Fisheries. Spasmodic effort, he emphasises to correspondents who have sent 2-lb. parcels of foxglove-leaves, is mere waste of energy. His company have offered both to test and to buy, and they are cultivating on their own account at Runcorn. Growers must be prepared for fluctuating prices, and cannot hope for profit save through operations on a fairly large scale.

Manchester.

Several local pharmacists have been for their summer vacation. A number of assistants are expecting the "call," and as the depletion of staffs is becoming more pronounced every month the need was recognised for taking the vacation earlier this year.

The cry of "No Holidays" is not universal judging from the number of customers who are purchasing holiday requisites such as bathing-caps, tooth-brushes, and tooth-pastes. Cameras, plates, and films are selling much better now that summer-like weather has put in an appearance.

Evans Sons Lescher & Webb, Ltd., replying to a correspondent in the "Manchester Guardian," say in regard to chemical manufacture: "The difficulty at present exists in not being able to get raw material, but we have every hope that as time goes on the products hitherto made in Germany will be made in this country."

In accordance with the representations made by the Pharmaceutical Committee and the Insurance Committee, conditional exemption has been granted to all those chemists and their assistants for whom exemption has been claimed. Notices have been sent out to that effect, and were in the hands of all those interested on July 19.

There was quite a stir in the pharmaceutical circles in Manchester last week when pharmacists and their assistants received the call from the military authorities to appear before the Tribunal. However, this cloud disappeared when the notice referred to was received from the Clerk of the Insurance Committee.

Miscellaneous.

BRITISH DYES, LTD., have given 5,000*l.* towards the cost of a new chemistry department of the Huddersfield Technical College.

THE APOTHECARIES' HALL EXAM. began on Monday. There appears to be a large number of candidates, mostly ladies, from institutions and private schools.

G. COVERDALE & SONS, chemists, Parliament Street, York, employ a lady who speaks French fluently, this provision having already proved very useful to Belgian customers.

A HAIR-TONIC, value 2*s.* 6*d.*, brought Elsie Morris (23) into Clerkenwell Police Court on July 23. She was committed for trial on a charge of stealing it from Boutall, Ltd., 46 Marchmont Street, St. Pancras. Mr. Joseph Boutall was the principal witness.

DR. JELLEY SENTENCED.—At the London Central Criminal Court on July 21, Henry Percy Jelley, registered medical practitioner, was acquitted of the charge of murder, but found guilty of manslaughter of Caroline Elizabeth March, a married woman, who, it was alleged, died in consequence of an illegal operation performed by him. He was sentenced to three years' penal servitude.

NATIONAL ASSOCIATION OF MEDICAL HERBALISTS OF GREAT BRITAIN, LTD.—Mr. Thos. Tildesley and Mr. Herbert R. G. Skelton represented the Sheffield and District Branch of the National Association of Medical Herbalists at the fifty-first annual Conference of the Association held at Nottingham on July 19 and 20. Mr. Herbert R. G. Skelton was elected a member of the Council.

EXPORTATION OF ALKALI PRODUCTS.—At Tower Bridge Police Court, London, on July 22, Horace R. Dodd, grocer, King Street, Tower Hill, was fined 50*l.* for selling bleaching-powder and sodium carbonate to twelve members of the crew of s.s. *Vlietstroom*, a Dutch vessel. Government authorities were the prosecutors, and it was explained that the exportation of these goods is prohibited by the Defence of the Realm Act. The defendant pleaded ignorance of offence.

AT HORNCastle (Lincs), on July 15, Mr. John E. Enderby, chemist and druggist, of Horncastle, was summoned under the new regulations for failing to have posted up in some conspicuous place a list of all male persons between the ages of eighteen and forty-one employed by him. Mr. R. W. Clitherow, who defended, pleaded that Mr. Enderby knew nothing about the order. The police had failed to publish it sufficiently, they having only exhibited two bills in shop-windows.

FOR ILLEGALLY HARBOURING 6 lb. of opium, Chan Yow (26), a Chinese member of the crew of an Ocean Steamship Co.'s steamer trading between Glasgow and China, was at West Ham on July 25 fined 50*l.*, or three months' imprisonment. One of the superintendents of the company said this kind of smuggling causes the company much trouble, and recently they had had to pay a fine of 5,000*l.* Since the ship had been at Glasgow over half a ton of the drug had been found on board. It transpired that the men pay 1*l.* per lb. for the opium here, and sell it in China at 10*l.* per lb.

THE REGENT STREET POLYTECHNIC, Marylebone, W., proposes to open next session a course in dispensing in connection with the chemistry department. The Sub-Committee of the London Education Committee has been informed that a number of applications had been received by the Governors, especially from people who have taken up Red Cross work, and that there is every reason to believe that the course would be successful. The only public educational institutions in London at which courses in dispensing are at present provided are the Battersea and South-Western Polytechnics, and it appeared to the Sub-Committee that a centre was also needed for the N.W. districts. They accordingly recommended conditional approval of the Governors' proposal, which was agreed to.

POISONING CASES.—Among the oases of poisoning which we have had reported to us during the week are the following: At Coity, near Bridgend, a little girl, who had been playing with foxglove and is supposed to have eaten some of the petals, was found to have met her death by misadventure.—Strychnine caused the death of a colliery employee's wife at Doncaster. She was addicted to methylated-spirit drinking.—At Lancaster nicotine used as a greenhouse insecticide was the poison chosen for suicidal purposes by a munitions-worker who had broken down in health.—Potassium cyanide was the cause of the death of a Copnor upholsterer. Deceased, who was also an entomologist, obtained the poison from Mr. T. E. Greenhalgh, chemist and druggist, Copnor, for the purpose of making an insect-killing bottle.

THE COCAINE TRAFFIC.—At Marlborough Street Police Court, London, on July 24, George Hunter (24), an officer's mess steward, was sentenced to three months' imprisonment with hard labour for aiding and abetting the men Lyons, Mitchell, Brown, and Freemüller (see *C. & D.*, July 22, p. 36) in selling cocaine to members of his Majesty's Forces. The prisoner, who had been a steward in the Canadian officers' mess, Salisbury Plain, from January to June, declared that he had never sold any cocaine and never had any dealings with it, although he knew the men engaged in the business.—The Society for the Suppression of the Opium Trade the same day passed a resolution approving of the proposal to draw up regulations to enable the Government to control more effectively the sale of cocaine, and at the same time calling attention to evils arising from the use of morphine.

Irish News.

Subscribers are invited to send to the Editor newspapers containing matters of trade interest. The items should be indicated.

Brevities.

At the last meeting of the Cork Board of Guardians Mr. O'Sullivan, Queenstown, was appointed apothecary to the Queenstown General Hospital at the salary of 75*l.* per annum, to be raised to 80*l.* in two years.

Among those wounded in the recent fighting in France was Mr. Andrew Tyrie, of the drug department of Mr. Samuel Gibson, J.P., druggist, King Street, Belfast. Mr. Tyrie is a nephew of Mr. W. J. Rankin, President of the Chemists and Druggists' Society of Ireland.

Referring to the note in the *C. & D.*, July 15 (p. 36), Mr. C. Edward Hill adds that he was invalided out of the Army six months ago, having served a year as dispenser in the R.A.M.C. with the Mediterranean Expeditionary Forces in Egypt. He has been granted a temporary pension of eightpence per day.

The Secretary of the Cork Industrial Development Association stated at a meeting of the Ladies' Committee that Lord Dunraven has on his estate at Adare established a drug-farm for the cultivation of belladonna, digitalis, valerian, stramonium, etc., so as to supply the home market. The United Irishwomen's Society, Dublin, has been active in disseminating information throughout Ireland on herb-culture.

Scottish News.

Subscribers are invited to send to the Editor newspapers containing matters of trade interest. The items should be indicated.

Brevities.

John McLaren & Son, High Street, Dunblane, are applying for an agri-horticultural poison licence.

Mr. Thomas Harley, chemist, Perth, who has been on the sick-list for a few weeks, has again returned to business.

Miss Elsie Gilmour, daughter of Mr. Andrew Gilmour, chemist and druggist, Burntisland, has passed the First Medical examination of the Edinburgh University.

There was a very large number present at the funeral of the late Thomas Smith Peebles, chemist and druggist, Lochee, on Saturday, July 22. The company walked from the house, "Ancrumysde," the short distance to Belgay Cemetery. The chief mourners were Dr. David Peebles and Mr. Thomas Peebles (sons), Mr. John Peebles (brother), Mr. Stonier (son-in-law), and Mr. George Baxter (manager). Others present were Drs. Mackie Whyte, Macfarlane, Buist, and Anton. The local Pharmaceutical Association was represented by Messrs. J. H. Thomson, John Gray, John Doig, Wm. Cummings, J. W. Robertson, G. J. Lindsay, C. Stephen, J. Robertson (Hon. Secretary), and A. Soutar (Royal Infirmary).

The "Aberdeen Journal" is encouraging the collection of medicinal herbs, and suggests the formation of a drying and collecting depot in connection with the Herb-Growing Association. Foxglove and valerian grow abundantly, and the Rev. George Birnie, Kingston-on-Spey, Garmouth, states that there is a vast quantity of valerian around the marsh known as Lea of Garmouth. Other plants are also known to be waiting the hands of the gatherer whenever the desire for them is made known, and they can be utilised to advantage. We may recall that Queen Victoria and her mother got annual supplies of chamomiles from Davidson & Kay, Aberdeen, who had it gathered for them.

Edinburgh.

St. Cuthbert's Co-operative Association, Ltd., was sued by a joiner and others last week for alleged sale to them of salt which they alleged contained soda-crystals. The Co-op. won.

Edinburgh University Court agreed on July 25 to hold a special meeting next month to decide finally on the question of admitting women to all the medical classes necessary for the medical degrees.

Mr. John Lothian, Ph.C., who has retired from his appointment with J. F. Macfarlane & Co., is an accomplished linguist, and has lately added to his acquisitions in that way a working knowledge of the Russian language. We understand that he contemplates visiting shortly a number of the Continental capitals—partly on holiday, and partly, it may be, to reconnoitre for future business-purposes.

The case in which R. & G. Hay attempted to interdict Mr. A. F. Dawson, chemist and druggist, from putting disinfecting-fluid or other such liquid into bottles branded with their name, and used to contain beer, created considerable interest among local chemists, quite a number of whom gave evidence on behalf of Mr. Dawson. Reference was made to the practice of chemists having their names on their dispensing-bottles, which they charge for and claim no right in them afterwards. One witness said he had no right to suggest to a client that the bottle he brought to be filled with a liquid did not belong to him and refuse to fill it. He would fill any liquid into any branded bottle brought by a customer, provided the bottle were otherwise suitable. If any objection were to be raised against the use of the bottle, it should be raised against the person who brought the bottle and was using it—not against the trader who filled it. If the trader were collecting such bottles and filling them for his own purposes, that was another matter. A Glasgow chemist gave evidence for the prosecutors.

Glasgow and the West.

Owing to depleted staffs several city chemists intend cancelling their night-bell for the duration of the war.

There has been a boom in corn paints and plasters. Chemists say that even heat-waves are advantageous to business.

Lanarkshire doctors have told the miners of the district that unless they pay 3d. per week for medical treatment

of and medicines to dependants the present agreement will expire at the end of July.

A Chinese seaman was remanded at the Marine Police Court, Glasgow, on July 24 on a charge of having been found with 20 lb. of opium in his possession without being able to account for it satisfactorily.

Mucilage of quince-seeds of various consistencies and perfumes is at present much in vogue in the city and surrounding districts as a substitute for glycerin skin-creams. It was suggested by the C. & D.

At the chemical-works of the Cassel Cyanide Co., Ltd., Glasgow, the bodies of three men were found in a gas-tank on Monday. The men had been employed to clean the tank, and it is supposed that in course of the work they had been overcome with fumes and had gradually succumbed.

During a terrific thunderstorm in Glasgow, on Sunday afternoon, the 90-ft. high chimney-stack of Paterson's Chemical and Drug Co., Firhill, was struck by lightning, which caused it to rock to and fro. Mr. Paterson, the proprietor, had a marvellous escape, having passed round the stack only a minute before it was struck. It will be necessary to take down 60 ft. of bricks which have been damaged and displaced.

"The Chronic Grouser" is what the local "Evening News" wrote about on July 22, saying: "Opinions are not influenced by petty, personal considerations, they are expressions of a naturally grumbling and impatient temperament, of that self-conceit which displays itself in sweeping condemnation of other people's acts. They think the vast concerns of a nation at war can be run with the mechanical precision of a druggist's shop. There is some waste, and occasional blundering even in the best-regulated druggist's shop; is it likely that a business run at a cost of six millions a day can be free of all human imperfections?"

Mr. James Dunn, chemist and druggist, Newton Stewart, and his wife were killed on Sunday as a result of a motor-riding accident. The accident occurred at the level crossing between Dornock and Annan. Mr. and Mrs. Dunn were travelling south on a motor-cycle and side-car. An engine with several waggons attached had just passed the main road going into the factory there, when the waggons became separated from the engine, and ran down the incline towards the level crossing, and crashed through the gates and into Mr. Dunn's car. Mrs. Dunn was killed instantaneously, and Mr. Dunn received very severe injuries. Dr. Welsh was soon on the scene, and had Mr. Dunn removed on a Gretna Fire Brigade motor ambulance to Dumfries Infirmary, where he died the following morning. He was under forty, and passed the Minor examination at Edinburgh in April 1901.

Scottish Dispensing Charges.

The following prices, based on reports from various parts of Scotland, are of interest as showing the general dispensing prices ruling in Scotland at the present time:

MIXTURES.		s. d.		CACHETS.		s. d.	
1 oz.	...	...	0 7	6 cachets	...	...	1 0
1½ oz.	...	...	0 9	12 "	...	...	1 6
2 oz.	...	...	1 0	24 "	...	...	2 6
3 oz.	...	...	1 2	OINTMENTS.			
4 oz.	...	...	1 4	½ oz. or less	...	...	0 5
6 oz. (3ss.)	...	...	1 6	1 oz.	...	...	0 8
6 oz. (3ij.)	...	...	1 8	2 oz.	...	...	1 2
8 oz. (3ss.)	...	...	1 8	3 oz.	...	...	1 6
8 oz. (3ij.)	...	...	1 10	4 oz.	...	...	1 9
LOTTIONS.				2d. extra for each oz.			
1 oz.	...	...	0 6	PROPRIETARY ARTICLES			
2 oz.	...	...	0 8	in broken bulk at an increase			
3 oz.	...	...	0 9	of 100 per cent. on cost.			
4 oz.	...	...	0 10	DRAUGHTS such as			
6 oz.	...	...	1 2	Pick-me-ups, containing tinctures, 4d., 6d., and 8d., according to locality and patron.			
8 oz.	...	...	1 4	PILLS.			
(bottles, 10-oz. to 20-oz., 3d. each.)				1 doz.	...	...	0 8
LINIMENTS.				2 "	...	...	1 2
The flat rate is superseded by charging retail prices for ingredients plus a dispensing-fee of 3d. or 4d. (Bottles extra, and 10-oz. to 20-oz., 3d. each.)				3 "	...	...	1 6
POWDERS.				4 "	...	...	1 8
1 powder	...	...	0 3	Pills, silver coated, keratin coated, etc., 6d. extra.			
2 powders	...	...	0 4	EXPENSIVE INGREDIENTS.			
4 "	...	...	0 6	The general rule is to double cost, and where practicable add a fee for dispensing.			
6 "	...	...	0 9				
12 "	...	...	1 3				
24 "	...	...	2 3				



Shakespeare's Tercentenary

*Medical Aspects of his works, and
his references to Drugs & Remedies*

By C.C. BELL



IT is commonly held that we know next to nothing of Shakespeare. The authentically ascertained facts of his life are few, and his character, we are told, is hidden behind his dramas; we cannot know certainly when he is expressing his own feeling or thought, and when he is speaking in character; all that we can be sure of is that he had a marvellous knowledge of human nature and an unequalled sympathy with all its moods. It must be admitted that we know but little of his life; still, he is not singular in this: even of Beaumont and Fletcher, who were both born, so to speak, in the "aristocratic 'purple,'" and who were for a long time more popular as dramatists than he, we know comparatively little more; of Webster, a greater genius than either of these two, and also a highly successful writer, we know nothing at all but what his own plays tell us. But we know more of Shakespeare himself than of any of his fellows, for he has left us the fullest record of his powers, his knowledge, his thoughts, his judgment of things, the complex of emotions and speculations which a great experience and wide vision of the world gave birth to in him.

It has been well said that the man who knows nothing of an author he has read will not know much of an author he has seen; and the greater the writer the more will he reveal of himself, for the personal element is the essence of style. Shakespeare expresses himself mainly in drama, but he is the most lyrical of all our greater dramatists, and the passages in his plays which are most familiar in our mouths are largely lyrical; many of them are dramatically faulty, they are the overflow of his own personality, and we hear in them unmistakably his own voice. And then there are the Sonnets, in which, in spite of Browning's assertion to the contrary, Shakespeare undoubtedly "unlocked his heart." They may not tell us much of his history, but they are an undesigned revelation of his character such as perhaps no writer so far removed in time has left us.

My theme, however, is not Shakespeare the man, but Shakespeare's medical knowledge. The subject has been frequently treated before, and many readers of THE CHEMIST AND DRUGGIST will be familiar with Wootton's "Chronicles of Pharmacy," in which it is dealt with at considerable length. I thus labour under the disadvantage of being a late gleaner in a well-reaped field, but in matters of detail I shall avoid as much as possible what has been said by Wootton, and on the general question shall restrict myself to such conclusions as have been arrived at independently of him.

The first thought that strikes me in view of Shakespeare's knowledge of any subject, except perhaps that of law, is that it is never obtruded, never used for the sake of display, or as mere knowledge, but always for its literary value. He was not a scientist, but a poet, nor was he, apparently, a close observer of natural phenomena except when his own interest and pleasure were concerned; he was not a laborious student, and not, in the scholastic sense, learned; he has often been compared to Nature, and was, as Professor Sir Walter Raleigh says, naturally learned. Milton long ago contrasted his "native woodnotes wild" with Jonson's "learned sock," and Dryden says, "All the images of nature were still present to him, and he drew them not

laboriously, but luckily." He gives us not the actual fact, but its emotional equivalent; not science, but "the impassioned expression which is in the countenance of all science"—in a word, he gives us poetry. We go to him, not as to some of his contemporaries, for curious antiquarian lore, but for "the light which never was, on sea or land," shed by his genius over life; for that interpretation of life which poetry alone can give us, in relation to which knowledge is but a means to an end.

Shakespeare evidently had a great respect both for medical men and for medicine itself. There is but one ludicrous or unworthy figure among his physicians; this is Doctor Caius in *The Merry Wives of Windsor*, who without any reason, unless it be that he is a Frenchman, has been supposed by some commentators to have been meant for Mayerne. All the doctors in the greater plays are grave, respectable figures. The apothecary in *Romeo and Juliet* does not excite respect, but he is not a typical person, either in the plays or in the life of the time; the apothecaries, though they had not yet formed a society of their own, were not such abjects as he of Mantua, but appear to have been a thriving body. Macbeth's "Throw physic to the dogs!" as little expresses Shakespeare's own sentiment as does Hotspur's abuse of ballad-mongers, and may be countered by a line in *The Rape of Lucrece*—

"Give physic to the sick, ease to the pained."

A good deal of *Pericles* is not by Shakespeare, but there can be little doubt that the speech of Cerimon, in Act iii. sc. 2, is his:

"'Tis known I ever
Have studied physic, through which secret art,
By turning o'er authorities, I have,
Together with my practice, made familiar
To me and to my aid the blest infusions
That dwell in vegetables, in metals, stones;
And I can speak of the disturbances
That nature works, and of her cures; which doth give me
A more content in course of true delight
Than to be thirsty after tottering honour,
Or tie my treasure up in silken bags,
To please the fool and death."

Greater honour than this no poet has ever paid to medicine. In the year before that in which the play was first acted (1608) Shakespeare's daughter Susanna had been married to Dr. Hall.

Shakespeare's medical lore was, of course, that of his own day, not that of ours, and it was rather general than particular—that of one who is interested in everything, and has a wonderful faculty for retaining and assimilating anything he has acquired. No doubt, too, he had read something of medicine, and we must remember that a mind like his would without special study pick up a good deal from the general literature accessible to him. He wrote in the later English Renaissance, when many ran to and fro and knowledge was increased; passages parallel to those that are cited in proof of his acquaintance with medicine occur in most of his contemporaries, and much of his lore was simply the common knowledge of his day. He seems, however, to have had a certain leaning towards medicine, due perhaps to his friendship with his son-in-law. He falls naturally into a medical vein, and though not so saturated with medical as with

legal ideas, he frequently uses them in metaphor and illustration, and that, too, in places where they would not occur to an ordinary mind. Sonnet cxlvii. affords an instance:

"My love is as a fever, longing still
For that which longer nurseth the disease,
Feeding on that which doth preserve the ill,
The uncertain sickly appetite to please.
My reason, the physician to my love,
Angry that his prescriptions are not kept,
Hath left me, and I desperate now approve
Desire is death, which physic did except."

This is closely paralleled by the speech of the Archbishop in *2 King Henry IV.*, Act iv. sc. 1. A still more curious instance occurs in Sonnet cxviii., in which he says that,

"As, to prevent our maladies unseen,
We sicken to shun sickness when we purge,"

he has adopted the "policy in love" of anticipating ills he has not found there, hoping that what was "rank of goodness would by ill be cured," but only to find that

"Drugs poison him that fell so sick of you."

medical commentators have often seen all this very much out of perspective.

Poison figures largely in Shakespeare, as in all romantic dramatists, but most of his poisons are vaguely indicated and of a nature unknown to science. So far as I am aware there are no such substances as Friar Laurence gave to Juliet, and Pisanio, at the Queen's instigation, to Imogen (the same effects presuppose the same cause), nor any that would act like the aforesaid Queen's "mortal mineral,"

"Which, being took,
Should by the minute feed on life, and lingering
By inches waste you."

Belief in the existence of such poisons was common at the time.

In Saxo Grammaticus and the old "Historye of Hamlet, Prince of Denmark," Hamlet's father is not poisoned, but "set upon" and slain by violence. Canon Ellacombe, who adopts the opinion of the late Dr. R. B. Nicholson that Shakespeare's "hebenon" is the yew (the "heben" of Spenser)—in support of

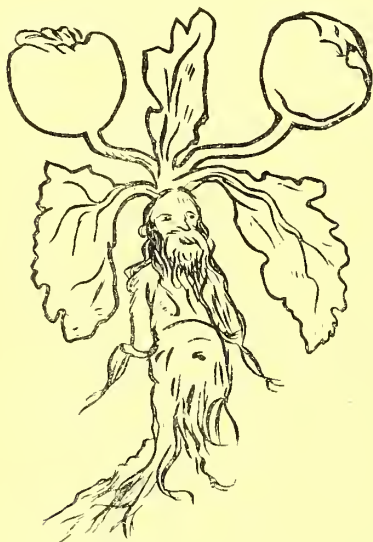


FIG. 1.
THE MALE MANDRAKE.
(From Brunfels, *Contrafayt Kreuter-
buch*, Auder Teyl, 1537.)

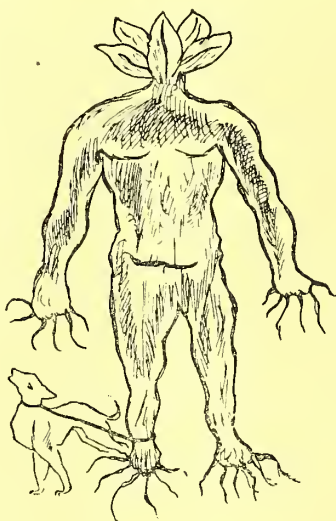


FIG. 2.
MANDRAGORA MANDRAKE.
(Herbarium Apulen Platonica, 1484.)

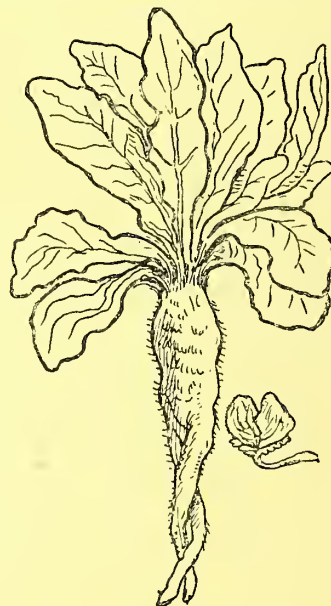


FIG. 3.
THE MANDRAKE.
(From Lyte's "Niewe Herball,"
1578.)

And in Sonnet cliii., again, there is an allusion to medical baths,

"Against strange maladies a sovereign cure,"

which, however, were of no avail to this "sad distemper'd guest":

"The bath for my help lies
Where Cupid got new fire, my mistress' eyes."

Two or three general ideas often recur in Shakespeare's medical allusions. He very frequently attributes disease to surfeiting (he is said to have died of a surfeit, by the way), and depression of spirits seems to be with him rather a cause than an effect of physical illness. He is also much beset by the idea of mental diseases; the frequency with which they occur in his plays is almost uncanny, and a volume has been written on his mad characters. He was acquainted with the theory of the four elements in the human body, with the process of blood-letting, with some of the effects of climate on health, with the ailments incident to old age, with the signs of death (the "leading case" is Falstaff's), with the diagnosis from urine—in short, he knew what almost everybody of observant mind would know of such matters, but (as a writer in "The Hospital" said recently)

which it is alleged that the *post-mortem* appearance after yew-poisoning agrees with the account given by the Ghost, and is similar to the appearance after snake-poisoning—thinks that since these effects are not known to have been made public in Shakespeare's time he must have taken his description of them from some case he had actually seen. Against the objection sometimes raised to this explanation of "hebenon," that in a later scene of the play it is represented as a mixture, not a simple, may be set the fact that "dwale" was a name not only for the deadly nightshade, but for a soporific drink into the composition of which nightshade usually, though not invariably, entered.

In *Lucrece* there is a passage of peculiar interest on poisons:

"The poisonous simple sometimes is compacted
In a pure compound; being so applied
His venom in effect is purified."

There is good pharmacy in that, and a saying in *2 King Henry IV.* has a similar truth: "In poison there is physic." Goneril has been credited with poisoning her sister Regan *secundum artem*, though the case is not very minutely reported; and the physician in *Antony and Cleopatra*, who says that had the Queen taken

poison there would have been an "outward swelling," might, but for the anachronism, have adduced a Warwickshire case almost contemporary with Shakespeare in support of his opinion. Archidamus, in *The Winter's Tale*, shows some knowledge of the action of narcotics in clouding the judgment, but Camillo, in the next scene of this play, and Gonzalo, in *The Tempest*, repeat the heresy of "poisons given to work a long time after"; and in *King John* the swelling sometimes caused by poisons is magnified into a "burst out" of the bowels. This, however, was then an accepted effect of some poisons. That spiders were poisonous (see *The Winter's Tale*, ii. 1) and that the "toad, ugly and venomous, bears yet a precious jewel in his head," were also common opinions. He uses the word "antidote" twice—apparently, as was not uncommon, with reference to disease in general rather than to poisons.

All's Well that Ends Well has what may be termed a medical plot, for it turns on the cure of fistula in the King of France by the heroine Helena. There is no special knowledge of medicine shown in the treatment, and the plot itself is taken from Boccaccio, who is more definite than Shakespeare in his account of the King's disease, and allows (not being hampered by the exigencies of the stage) a longer time for the cure. What medical interest the play has for us is in the reference to Galen and Paracelsus and the "congregated college," with its "authenticated fellows" and "learned doctors." This was about the time when the great battle between the two schools of medicine, the Galenical and the chemical, was at its height, and not very long afterwards Mayerne was expelled from the Paris College for advocating the use of minerals. In this play, too, as in *2 King Henry IV.*, there is an allusion to potable gold, and a play on the words "dram" and "scruple" appears in it and some other plays. Such references to particular medical facts might be multiplied, and some of them indicate rather special knowledge of a bookish kind. There is, for instance, a technical term of pharmacy in *Love's Labour's Lost*, in the line—

"Twice sod simplicity, bis coctus";

with which may be compared the *diluculo surgere* of *Twelfth Night*, the *tremor cordis* of *The Winter's Tale*, and the *hysterica passio* of *King Lear*. Another line in *L.L.L.*,

"The nimble spirits in the arteries,"

like Hamlet's speech to Horatio,

"My fate cries out,
And makes each petty artery in this body
As hardy as the Nemean lion's nerve,"

recalls the theory of the arteries universally held before Harvey's time. They were supposed to be the conduits, not of the blood, but of the vital spirits; "Spirit vitall," says an old writer, "procedeth from the harte, and by the arteries or pulses is sente into all the body."

Shakespeare knew something about the causes of indigestion, as is proved by the line in *Richard II.*,

"Things sweet to taste prove in digestion sour";

with which we may compare one from *Lucrece*—

"His taste delicious, in digestion sour."

In *Much Ado about Nothing* there is a punning allusion to a related fact of indigestion, where Beatrice says that Count John's "tart" looks give her heartburn. In the same play toothache is attributed to a worm, a common fallacy which still survives. In Sonnet cxi. "potions of eysell" (vinegar) are mentioned as a remedy against "strong infection," recalling a usual draught against plague; and in cxix. there occurs an interesting allusion to a chemical process—

"What potions have I drunk of siren tears,
Distill'd from limbeckes foul as hell within."

See also Sonnet liv. The Queen in *Cymbeline* has some knowledge of herbs—knows, at all events, that they should be gathered with the dew on them.

All this does not amount to very much, but Biondello's description of his horse's ailments in *The Taming of the Shrew*, Act iii. sc. 2, which, whatever may be thought of the greater part of this play, is clearly from Shake-

speare's pen, shows a really remarkable veterinary knowledge. It is too long to quote. Readers must remember that "fashions" should be read as "farcins" (farcy), and they will see that we have here a very accurate account of the different stages of glanders, besides other matter clearly⁹ proving that Shakespeare knew what he was talking about. His knowledge of the horse was not all picked up at the stage door.

Shakespeare's medicinal plants have been the subject of several articles in your columns, and I have not space for more than a brief review of them. He rarely mentions drugs or simples as such, and never, I believe, refers by name to any mineral medicine, except potable gold. In one single speech in Fletcher's *The Faithful Shepherdess* fifteen simples are named and their uses given; only three or four more than this number occur in the whole of Shakespeare, though he mentions 178 plants or products of plants, many of them many times; and he says little or nothing about the uses of most of his simples. His characteristic attitude towards flowers is shown in such verses as he puts into the mouth of Perdita:

"Daffodils,
That come before the swallow daries, and take
The winds of March with beauty."

The plant he mentions most frequently (about seventy times) is the rose, but only in a single reference respectively to rose-water and cakes of roses does he give any hint of its use; he has nothing to our present purpose about the lily (mentioned twenty-eight times), the violet (eighteen times), rosemary, marigolds, rue, daisy, cowslip, onion (each mentioned five or six times), or of mint, thyme, and chamomile, none of which is mentioned more than twice. Of the more important medicinal plants native to England, he mentions the poppy, hemlock, eryngo, and aconite, but only of the first does he say anything definite, though his reference to the supposed aphrodisiac property of the sea-holly is unmistakable. He classes the potato with it. Aloes, rhubarb, senna, and colocintida he mentions (once each), in metaphor or illustration, mandrake six times, but only twice with reference to its use; what most interests him is its man-like shape, with the superstitions which have gathered round it.

"And shrieks like mandrakes, torn out of the earth,
That living mortals, hearing them, run mad,"

says Juliet. To avoid such a catastrophe it was usual to pull up the plant by means of dogs, as shown in an illustration in the "*Herbarium Apuleii*" (1484). (See p. 766.)

I have already spoken of the "cursed hebenon" of *Hamlet*, which some commentators take for henbane, some for ebony, some for yew (*Eibenbaum* in German). The "insane root that takes the reason prisoner" of *Macbeth* has been regarded as hemlock, as henbane, as belladonna, and as mandrake. It is probable that Shakespeare had in mind the unidentified herb of which Plutarch speaks, in his life of Antony, as having had so strange an effect on the soldiers who ate of it: "It did first take away all sense and understanding. He that had eaten of it remember'd nothing in the World; and employ'd himself wholly in removing of Stones from one Place to another . . . but in the end after having vomited much Choler they fell down dead." This was in the Parthian campaign. Was the plant referred to the *Pruna insana* of Clusius? An inquiry in *THE CHEMIST AND DRUGGIST* in 1892 (see vol. xli., pp. 28, 63, 249, 530, 563, for this and the correspondence it occasioned) drew from Dr. David Hooper, of Ootacamund, a letter in which he identified *Pruna insana* with *Hydnocarpus inebrians*, a native of Ceylon and Southern India, a tree resembling the cherry in habit, but with leaves like those of the peach, and a round fruit about the size of a plum and covered with a hard shell. This agrees with the description given of *P. insana* by Lemery.

The plant which Shakespeare mentions oftenest with plain reference to its use in medicine is, I believe, the plantain. In three plays he speaks of it as good for wounds and sores. It was credited with more than a score of virtues, and an old Anglo-Saxon herbal calls it "the mother of worts." *Carduus benedictus*, which

Beatrice would have moralised, he knows only as an application to the heart for "a qualm"; hellebore and sage and many another famous simple he ignores altogether; saffron he knows only for its use in cookery, and for its colour.

In conclusion, I cannot but think that Dr. Bucknill, to whose book ("Shakespeare's Medical Knowledge," 1860) I am indebted for a good many of my references, is inclined to exaggerate the extent of Shakespeare's medical lore. It was not more extensive than that of some of his contemporaries, but it was more intimate.

from our office) that was redolent of drugs; now there is but one pharmacy there, and Mr. Truman is the owner. Bankside has during the last thirty or forty years become a drug-trade centre, just as it was a theatrical one in Shakespeare's day. Fig. 4 shows what it was like then; the Globe Theatre, where Shakespeare was actor-manager-author, is clearly visible. Barclay's Brewery stands there now, between Southwark Bridge Road and Park Street (see fig. 5). There we strike the drug-trade, for Wright's Coal Tar Soap is made there, and there are fifteen other establishments in the immediate

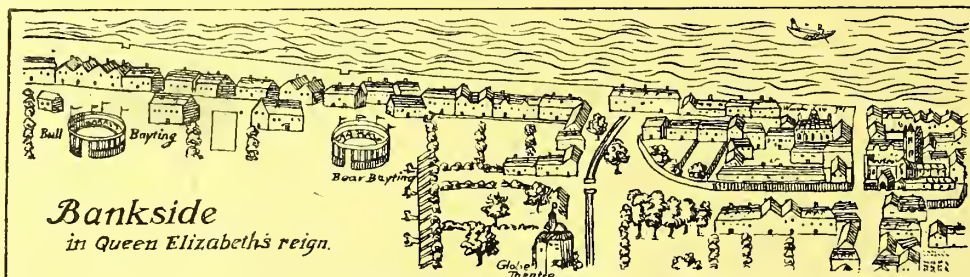


FIG. 4.—IN SHAKESPEARE'S DAY.

As Bagehot puts it, Shakespeare had not only a great experience but "an experiencing nature." Everything that came to him he made his own; as children say, it "came alive" in his hands. "If a sparrow comes before my window," wrote Keats, "I take part in its existence and hop about the gravel," and thus it comes to pass that Shakespeare is supposed to have been so many things that he never was—scholar, lawyer, Catholic, Puritan, what-not. He was simply the greatest of poets.

neighbourhood which are known to those who read this, whether at home or abroad. We append the names to our map of Southwark, a circle and figure indicating where the business premises of each firm stand.

The chapter "Shakespeare's Pharmacy" in Wootton's "Chronicles of Pharmacy," which Mr. Bell mentions at the commencement of his article, deals with several references to apothecaries which occur in Shakespeare. A comparison is given of the different versions of "Romeo and Juliet" dealing with the supply of poison to Romeus

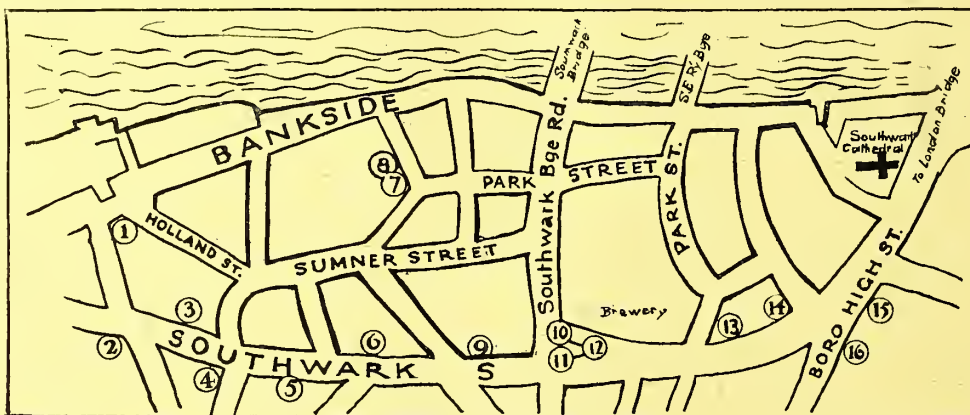


FIG. 5.—THE DISTRICT TO-DAY.

- | | |
|--|---|
| 1. James Epps & Co., Ltd., cocoa manufacturers, 41 Holland Street. | 10. Rigollot & Co., mustard-leaves manufacturers, 67 Southwark Bridge Road. |
| 2. Thomas Holloway, proprietary-medicine manufacturer, 113 Southwark Street. | 11. Goodall, Backhouse & Co., wholesale druggists, 54 Southwark Street. |
| 3. London Chemical Co., 124 Southwark Street. | 12. Wright, Layman & Umney, Ltd., wholesale druggists, 44 to 50 Southwark Street. |
| 4. Stevenson & Howell, Ltd., aerated-water essence makers, 95A Southwark Street. | 13. W. H. Willcox & Co., Ltd., engineers, 32 to 38 Southwark Street. |
| 5. W. Toogood, Ltd., druggists' sundriesmen, 77 Southwark Street. | 14. Prideaux's Pure Casein and Life Food Co., Ltd., 10 Southwark Street. |
| 6. J. E. Garratt, manufacturers' agent, 96 Southwark Street. | 15. Down Bros., Ltd., surgical-instrument makers, 45 Borough High Street. |
| 7. Wright, Layman & Umney, Ltd., Park Street. | 16. John Pepper & Co., Ltd., proprietary-medicines manufacturers, 51 Borough High Street. |
| 8. James Dale, Ltd., chemical-plant makers, 66 Park Street. | |
| 9. Berenger Frères, Ltd., essential-oil makers, 78 Southwark Street. | |

LINKING UP.

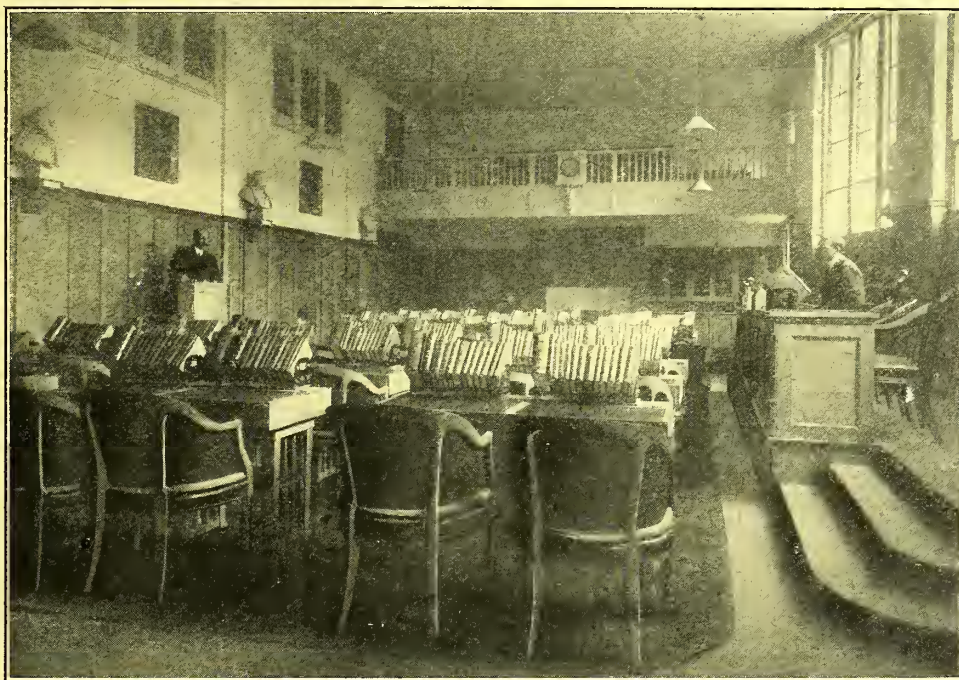
We dare say there are many more than ourselves who in reading Mr. Bell's article will think of that part of London with which Shakespeare's name is very closely associated—Bankside, just over the Thames from where the C. & D. office stands on the north side of the river. In Shakespeare's day it was Bucklersbury (a stone's throw

by the Mantuan apothecary. Wootton also endeavours to unravel the mystery surrounding "the juice of cursed hebenon," which according to the Ghost was the poison chosen by Hamlet's wicked uncle to kill his father. Mr. Bell has dealt with this also, but confined himself more to the medical aspects of Shakespeare's work, so that this article is complementary to the pharmaceutical aspect.

New Premises of the General Medical Council.

THE summer session of the General Council of Medical Education and Registration was held at the new premises at 44 Hallam Street, Portland Place, London, W., from which address the ordinary business of the Council has been transacted since the beginning of the year. The General Medical Council was constituted by the Medical Act which came into force on October 1,

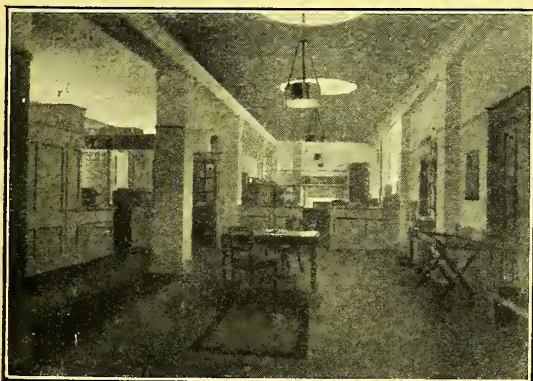
taken over by the Government in 1853, and was afterwards removed to Kensington, the title on the last reconstitution in 1907 being the Imperial College of Science and Technology. To return to the history of the General Medical Council, it appears that in 1895 the Council purchased the Oxford Street site and the land behind, including 16 Hanover Square. Notwithstanding several



THE COUNCIL CHAMBER.

1858, Sir Benjamin Brodie being the first President. The meetings were held at the Royal College of Physicians, but subsequently a registration office was opened in Soho Square. In 1874 the Council obtained from H.M. Office of Works the premises at 299 Oxford Street,

alterations in the structure and remodelling of the Council chamber, the premises were not well adapted for the purpose required, and were, moreover, unnecessarily noisy from their situation in the busiest thoroughfare in West London. It was therefore resolved to find a more suit-



ENTRANCE-HALL.



MEMBERS LUNCHEON-ROOM.

which had formerly housed the Royal College of Chemistry. The Treasury spent 1,500*l.* in fitting it for occupation. The first laboratories of the College of Chemistry were arranged in premises at George Street, Hanover Square, and the foundation-stone of the Oxford Street house was laid in 1846 by Prince Albert. The College was

able site, and eventually Hallam Street, Portland Place, was chosen, the whole of which street is being rebuilt owing to the falling-in of long-term leases. We figured the outside view of the new building at 44 Hallam Street in the *C. & D.*, June 19, 1915, p. 48, and there is an excellent sketch in the Royal Academy this year.

The premises are built of Portland stone, and have a fine appearance on account of a central bay which extends nearly to the full height of the building. We have had photographs taken of the interior to give a better idea of the place where the functions of medical government are carried on. The entrance-hall is a spacious apartment containing the registration office and rooms for the Registrar, also cloak-rooms. A fine staircase leads from the hall to the Council chamber on the next floor. There is a second staircase at the other end of the hall and a lift. The Council chamber occupies the full width of the building and extends in height the space of two floors. It is lighted by three large windows and panelled with oak. Round the wall are busts of past Presidents, and at either end are galleries, one being for the Press and the other for the public. Behind the Council chamber are committee and waiting rooms. One of the rooms devoted to the Pharmacopœia Committee contains the collection of Pharmacopœias which the late Dr. D. J. Leech bequeathed to the General Medical Council. Above the committee-rooms are the members' luncheon-room and smoking-room, and the caretaker has rooms in this part of the building. Sir Donald MacAlister, at the opening of the summer session in May, referring to the new premises in which the meeting was held for the first time, explained that the building was free of debt, the cost having been met from the proceeds of the sale of the Oxford Street premises and from surplus funds in the hands of the Council and its branches.

Squire's "Companion."

WE referred recently to the publication of the nineteenth edition of Squire's "Companion to the British Pharmacopœia," and mentioned a few of the improvements that had been effected in the work. We have since had another opportunity of examining the book and noting further characteristics. The information regarding physical constants is particularly full, and we are informed it results from a systematic record of these data which began in the author's laboratory about the year 1880. The earliest records simply gave specific gravities, and the system was instituted with the view of having a permanent record from which each batch of material manufactured in the laboratories could be checked, and so that in the event of any question arising on a particular batch of material the record could be referred to at any time, and also a comparison could be made between the batches prepared from time to time. The question of recording the "total solid residues" and "percentages of absolute alcohol" in the various fluid preparations was an extension of this practice, which began to be adopted soon after the work which was done by Messrs. Squire in connection with Moor's "Standards for Food and Drugs," and subsequent to the publication of the "Digest of Criticisms of the British Pharmacopœia 1898" by Chattaway, which contained similar figures and figures for the ash percentages of various drugs.

The year 1890, when the fifteenth edition was published, marked an important epoch in the development of Squire's "Companion." A special staff of scientific chemists was selected for the preparation of the edition. Pharmaceutical and chemical literature dealing with the period between 1886 and 1890 was systematically abstracted, and the conclusions drawn by the various authors were compared and verified or disproved. The result was that the small-type notes giving the results of the experiments were more than ordinarily voluminous, although even then they afford no criterion of the immense amount of work which was involved before the short criticism was written. The year 1908 is another landmark in "Companion" history. Although the general arrangement of matter remained the same in this as in all earlier editions, the eighteenth edition, which was published in that year, was to all intents and purposes a new book. The test paragraphs were re-modelled and were arranged on the lines which have given

Physical Constants.

Name of Drug.	Sp. gr.	Absolute alcohol, v/v p.c.	Total solids, w/v p.c.	Alkaloids, grams in 100 ml.
Aconite, tincture ...	0.868	—	6.0	0.2
Aconite, liniment ...	0.919	60.0	2.0	0.04
Aloes, co. decoct. ...	1.009	14.9	7.0	—
Ammonia, arom. spt.	0.888-0.893	—	[2.16 p.c.]	w/v, NH ₃ [1 grain tartar emetic in 275m.]
Antimony, wine ...	1.001	18.0	4.7	—
Arnica, tincture ...	0.950	45.0	2.3	—
Asafoetida, tincture ...	0.910	63.0	9.0	—
Belladonna, tincture ...	0.892	70.0	1.5	0.035
Belladonna, liq. ext.	0.923	69.0	13.0	0.75
Benzoin, co. tinct.	0.886	76.0	18.0	—
Buchu, tincture ...	0.922	60.0	2.4	—
Calendula flowers, tincture	0.934	59.0	5.0	—
Calumba, tincture ...	0.915-0.918	60.0	1.2	—
Camphor, spirit ...	0.845-0.850	—	[w/v. 10 p.c.]	c. camphor]
Camphor, compound tincture	0.915-0.920	58.0	0.2-0.35	0.05 morphine in 100 c.c.
Cannabis ind., tinct...	0.840	85.5	4.5	—
Cantharidin, vinegar	1.051	[42.5 hydrogen acetate]	0.05	—
Cantharidin, tincture	0.835	89.0	0.01	[0.01 cantharidin]
Capsicum, tincture ...	0.913	60.0	1.24	—
Cardamoms, co. tinct.	0.976	42.0	13.0	—
Cascara, liq. ext. ...	1.060	25.0	23.0	—
Cascarilla, tincture ...	0.898	70.0	3.0	—
Catechu, tincture ...	1.005	42.0	15.5	—
Chiretta, tincture ...	0.912	60.0	0.5	—
Chlorinated lime, solution	1.055	—	[2 p.c.]	available chlorine]
Chlorinated soda, solution	1.054	—	[2.5 p.c.]	available chlorine]
Chloroform, liniment	1.214	—	—	—
Chloroform, spirit ...	0.860	—	—	—
Chloroform and morphine, co. tinct.	0.996	56.0	7.5	0.75 anhyd. morphine
Cinchona, liq. ext. ...	1.100-1.150	12.0	33.4-53.0	4.6-5.46
Cinchona, tincture ...	0.910-0.920	66-68.5	3.5-8.5	1.0
Cinchona, co. tinct.	0.908	66.0	4.0	0.5
Cinnamon, spirit ...	0.845	85.0	0.3	—
Cinnamon, tincture ...	0.900	69.0	3.0	—
Cochineal, tincture ...	0.954	45.0	3.0	—
Colchicum, tincture (seed)	0.890	69.0	1.6	—
Colchicum, wine(corn)	1.012	20.0	7.8	—
Cubebs, tincture ...	0.838	88.0	2.5	—
Digitalis, tincture ...	0.896	69.0	2.5	—
Ergot, liquid extract	1.025	34.0	16.0	—
Ergot, am. tincture ...	0.932	57.0	4.0	—
Gelsemium, tincture	0.913-0.920	58.0	1.5	0.05
Gentian, co. tincture	0.965-0.970	43.0	5.0	—
Ginger, tincture ...	0.830	88.0	0.5	—
Grindelia, liq. extract	1.034	32.0	24.0	—
Guaiaicum, am. tinct.	0.895-0.900	70.0	15.0	—
Hamamelis, tincture	0.950-0.955	45.0	2.0	—
Hamamelis, liq. ext.	1.025-1.050	32.0	20.0	—
Hamamelis, solution	0.980	18.0	—	—
Horseradish, co. spirit	0.922	59.0	—	—
Hydrastis, liq. ext.	0.990-1.012	50.0	19.0	—
Hydrastis, tincture ...	0.920	58.0	1.8	—
Hyoscyamus, tincture	0.899	70.0	3.0	—
Iodine, strong tincture	0.982	72.0	6.0	—
Iodine, weak tincture	0.875	82.0	2.5	[2.44 to 2.51 iodine]
Ipecacuanha, liq. ext.	0.880	78.0	9.5	2.0
Ipecacuanha, wine ...	0.995	23.0	5.5	0.1
Iron, wine ...	1.000	18.0	4.5	[0.125-0.3 iron]
Iron citrate, wine ...	1.063	16.0	18.0	—
Iron iodide, syrup ...	1.373	—	[4.9-5.1 w/v]	w. p.c. anhydrous ferrous iodide]
Iron chloride, tincture	1.110	24.0	12.0	—
Jalap, tincture ...	0.905-0.910	68.0	3.5	[1.45-1.55 resin]
Jalap, co. tincture ...	0.924	60.0	4.0	—
Kava, liquid extract	0.861	80.0	6.0	—
Kino, tincture ...	0.988-0.990	50.0	22.0-25.0	—
Krameria, tincture ...	0.930-0.940	58.0	5.0	—
Lavender, spirit ...	0.835-0.838	77.0	—	—
Lavender, co. tincture	0.835	88.0	—	—
Lemon, tincture ...	0.875-0.880	77.0	1.0-2.0	—
Liquorice, liq. extract	1.130-1.140	18.0	33.6-42.7	—
Lobelia, ethereal tinct.	0.808	64.0	2.5	—
Myrrh, tincture ...	0.845-0.855	85.0	4.0-6.0	—
Nux vomica, liq. ext.	0.945-0.965	60.0	12.0-19.0	1.5 strychnine-0.125 strychnine-1.0 morphine-0.1 morphine-
Nux vomica, tincture.	0.890-0.915	68.0	1.5	—
Opium, tincture ...	0.950-0.960	43.0-45.0	4.0	—
Opium, am. tincture	0.889	70.0	0.8	—
Orange, tincture ...	0.869-0.876	80.0	2.0	—
Orange, wine ...	1.050	15.0-18.0	19.0	—

Name of Drug	Sp. gr.	Absolute alcohol, v/v p.c.	Total solids, w/v p.c.	Alkaloids, grams in 100 ml.
Podophyllum, tinct.	0.840-0.850	87.0	3.5	—
Pyrethrum, tincture	0.900-0.904	68.0	1.5-3.5	—
Quassia, tincture ...	0.945-0.949	45.0	0.5	—
Quillaia, tincture ...	0.915-0.925	58.0	1.25	—
Quinine, tincture ...	0.880-0.890	78.0	3.8	1 gr. in 55m.
Quinine, wine ...	1.044-1.095	12.0-14.0	18.0	1 gr. in 1 oz.
Quinine, am. tincture	0.9225-0.9230	58.0	1.8	1 gr. in 55m.
Rhubarb, co. tincture	1.003	39.0	17.5	—
Senega, tincture ...	0.935-0.940	59.0	3.0-6.0	—
Senna, co. mixture ...	1.125	10.0	22.0	—
Senna, co. tincture ...	1.002	36.0	18.0	—
Serpentaria, tincture	0.920	60.0	2.0	—
Sherry ...	0.985-0.998	16.0-20.0	—	[0.1-0.2 volatile acids]
Soap, liniment ...	0.890	68.5	5.5	—
Sodium arsenate, solution	1.010-1.015	—	—	[1.0 anhydrous sodium arsenate]
Squill, vinegar ...	1.070	[6.48 hydrogen acetate]	19.0	—
Squill, oxymel ...	1.29	[1.43 hydrogen acetate]	—	—
Squill, syrup ...	1.344	—	—	—
Squill, tincture ...	0.960-0.975	55.0	13.0	—
Stramonium, tincture	0.950-0.964	43.0	3.0-5.0	0.025 mydriatic alkaloids
Strophanthus, tinct.	0.892	69.0	1.5	—
Valerian, am. tincture	0.930-0.940	56.0	3.0	—
Virginian prune, syrup	1.303	—	—	[0.001-0.0037 HCN]
Virginian prune, tinct.	0.977	48.0	20.0	[0.004 HCN]

universal satisfaction. This construction has been followed in the nineteenth edition, just published. The analytical factors relating to galenic preparations have been very largely extended. Whereas up to the year 1908 such figures were chiefly restricted to those for specific gravity, figures for "specific gravity," "percentage of total solids," and "percentage of absolute alcohol," wherever possible, are now given for liquid preparations, and percentages of "ash" and "aqueous and alcoholic extractives" for solid drugs are given also in many instances. The work done on the chemical standardisation of drugs, already well known to readers of THE CHEMIST AND DRUGGIST through the Proceedings of the International Congress of Applied Chemistry, involved investigations not only of the British Pharmacopœia processes for alkaloidal determinations, but of the United States, German, French, and Swiss Pharmacopœia processes. Some of the data regarding physical constants are very elaborate. Under chaulmoogra oil, for example, there are figures for "specific gravity," "acid-value," "saponification-value," "ester-value," "iodine-value," and "optical rotation." The data given by Power and Barrowcliffe are compared with those mentioned in the British Pharmacopœia, and new figures given for (a) pure cold-drawn oil, (b) spurious oil, (c) commercial samples, and (d) an old specimen. In the case of substances like almond oil and castor oil, suggestions are made which form a valuable criticism on the monographs of the British Pharmacopœia. It occurred to us that some of the figures given for solubilities and physical constants of liquids would be generally useful, and we have compiled these in separate tables, Mr. P. W. Squire having agreed to the present publication. It may be mentioned also that special information is given in the monographs dealing with alkaloidal estimations, which are not only useful for reference by pharmacists, but very valuable to students. To several generations of students the materia medica table in "Squire" has been a sheet-anchor, and it is satisfactory to find that this has been brought up to present-day requirements.

Solubilities.

ALLANTOIN.—Soluble 1 in 102 water; practically insoluble in alcohol (90 p.c.) and in ether.

ALOIN.—Soluble 1 in 120 water; freely soluble in hot water; 1 in 18 alcohol (90 p.c.); 1 in 56 acetone; insoluble in ether, chloroform, and petroleum ether.

AMMONIUM SUCCINATE.—Soluble 1 in 1.6 water; insoluble in alcohol (90 p.c.) and in ether (0.735).

ATROPINE.—Soluble 1 in 60 ether (0.720).

BARBITONE.—1 in 160 water; 1 in 12 boiling water; 1 in 8½ alcohol (90 p.c.); 1 in 8 acetone; 1 in 12 acetic ether; more difficultly soluble in chloroform; readily and completely soluble in solutions of the alkalis.

BENZOIC ACID.—1 in 390 of water; 1 in 12 boiling water; 1 in 2½ alcohol (90 p.c.); 1 in 4 ether; nearly 1 in 6 chloroform; 1 in 12 benzol; about 1 in 30 glycerin; 1 in 30 castor oil; 1 in 36 olive oil or almond oil; 1 in 16 lard; 1 in 20 anhydrous lanolin. Borax increases its solubility in water; 1 of borax and 1 of acid are soluble in 100 of water; sodium phosphate also aids its solution.

CALCIUM ACETYSALICYLATE.—Soluble 1 in 6 water; about 1 in 50 alcohol (90 p.c.); insoluble in ether.

CALCIUM FORMATE.—Soluble 1 in 8 water; insoluble in alcohol (90 p.c.) and in ether.

CALCIUM LACTATE.—Soluble 1 in 20 water; insoluble in ether.

CRESOL.—Soluble 1 in 45 water; mixes in all proportions with alcohol (90 p.c.), ether, chloroform, glycerin, and olive oil.

CRYOGENIN.—Soluble 1 in 172 water; 1 in 134 alcohol (90 p.c.).

GUAIACOL CARBONATE.—Insoluble in water; soluble 1 in 200 alcohol (90 p.c.); soluble with difficulty in ether; soluble 1 in 1.2 chloroform.

HIPPURIC ACID.—Slightly soluble in water (1 in 550); but fairly readily soluble in hot water; soluble in alcohol (90 p.c.) 1 in 44; insoluble in chloroform, benzene, petroleum spirit, and carbon bisulphide.

IODIC ACID.—Very soluble in water (2 in 1); insoluble in alcohol (90 p.c.) and in ether.

LACTOPHENIN.—Soluble 1 in 600 water; 1 in 30 boiling water; 1 in 11 alcohol (90 p.c.); 1 in 120 ether.

LITHIUM ACETYSALICYLATE.—Soluble nearly 1 in 1 water; 1 in 4 alcohol (90 p.c.); insoluble in ether.

LITHIUM FORMATE.—Soluble 1 in 2 water; 1 in 2 alcohol (90 p.c.); insoluble in ether.

PHENOLPHTHALEIN.—Almost insoluble in water; soluble 1 in 15 alcohol (90 p.c.); 1 in 144 ether.

POTASSIUM FORMATE.—Readily soluble in water (3 in 1); 1 in 13 alcohol (90 p.c.); insoluble in ether.

PYRIMIDON.—Soluble 1 in 17½ water; 2 in 4½ alcohol (90 p.c.); 1 in 26 ether; almost insoluble in petroleum ether.

QUININE AND UREA HYDROCHLORIDE.—Soluble 1 in 1½ water; 1 in 3½ alcohol (90 p.c.); insoluble in ether.

SODIUM ACETYLPARAMINOPHENYLARSONATE.—Soluble 1 in 8 water; insoluble in alcohol (90 p.c.).

SODIUM ACETYSALICYLATE.—Soluble 1 in 1½ water; 1 in 3 alcohol (90 p.c.); insoluble in ether.

SODIUM DIETHYLBARBITURATE.—Soluble about 1 in 5 water.

SODIUM FORMATE.—Readily soluble in water (about 1 in 1); 1 in 45 alcohol (90 p.c.); insoluble in ether.

STEARIC ACID.—Insoluble in water; soluble 1 in 32 alcohol (90 p.c.); 1 in 18 absolute alcohol; readily soluble in ether.

SUCCINIC ACID.—Soluble 1 in 18 water; 1 in 11 alcohol (90 p.c.); 1 in 56 ether (0.735).

THEOCIN SODIUM ACETATE.—Soluble 1 in 22 water; 1 in 535 alcohol (90 p.c.); insoluble in ether.

YELLOW BEESWAX.—Entirely in oil of turpentine; insoluble in alcohol (90 p.c.); slightly and not uniformly soluble in ether; about 1 in 100 boiling alcohol (90 p.c.); 1 in 12½ chloroform.

Things Worth Knowing.

By "Hugo."

Soaps harden by keeping, consequently do not dissolve so quickly as when new. Use this point when selling old stock.

A piece of toasted bread (not burnt) placed inside the lard-pot when the lard is rancid will remove, by absorption, the rancid odour.

When displaying indiarubber hot-water bottles blow a little air into them. They will look better, keep better, and sell more readily.

Rubber gloves, tubing, etc., should be gone over weekly. Dipped in warm water and rolled in the hands, they keep good for a very long time.

Enemas and syringes of every description should always be tested with pure water in presence of the purchaser. This is satisfactory both to seller and buyer, and prevents unpleasantness in the event of defects.

Where many solutions are required for stock, there is no better or quicker method than the use of small muslin bags containing the salts suspended in the solvent in wide-mouthed jars. There is no limit to the number of solutions which may thus be prepared.

Cultivation of Belladonna.

By J. Beetham Wilson.

[The author is the pharmacist at Dorking who last month, in an interview with the representative of a daily contemporary, mentioned that when the war began he made experimental plantings of belladonna, foreseeing the shortness of the supplies of the drug (see *C. & D.*, June 17, p. 35). He now communicates observations and photographs which help to show pharmacists what they can do in the matter. Mr. Wilson was at one time on the staff of Mr. Claridge Druce, Ph.C., Oxford, and in 1899 he commenced business on his own account at Dorking. He has made a special study of bacteriology, and has not overlooked other scientific and technical adjuncts to pharmacy on the business side.]

ANTICIPATING the shortage of belladonna when war was first declared, I obtained some land for its cultivation, and, in ignorance of its cultural difficulties, expected that I should at least grow sufficient during the first year to pay my initial expenses; but this was far from actuality, and I estimate it will take three or four years to make the cultivation commercially successful, after which it should yield a fair profit on the outlay. I have several varieties of land, and one object of the experiment is to find out to what extent land unsuitable for other purposes can be utilised, as it is obviously impossible to try to compete with Germany if we have to use land that can be more profitably employed for growing food-crops. In utilising rough ground the labour in



FIG. 1.—A BELLADONNA FIELD.

Two years ago this land was almost impenetrable with undergrowth. All the plants are approximately the same age: those in the foreground are in damp ground, and receive a considerable amount of shade; the rows above are in sun all day long. All these were transplanted in the spring of 1915. The bank was planted with better roots in the autumn of 1915. They get practically no shade.

clearing it is considerable and about as hard as playing golf. I have removed the turf in rows 30 inches apart, leaving the grass between the rows; also, with a view to saving labour, rows of holes were dug and the plants put in. The former method answers best, as the rows can be regularly hoed and the young plants are kept freer from weeds. It also has the advantage that seedlings or seeds can be planted between the older plants, which give them protection until the older plants are removed to harvest the roots. Established plants may be transplanted at any time up to the end of August, but it retards their growth until the next season if transplanted after the end of the summer, when the earth is cold: they make no root and are liable to rot.

Sown in the open the seeds take a long time to germinate. Seeds sown in August 1914 are now only a few inches high. Another portion of the same seed, sown in April 1915, seems to have failed altogether;* but sown under glass they are quicker, and may be planted out about five months after sowing. From my own observations I

* Since writing, some of these seeds are just appearing above ground.

conclude that in the wild state the plants are propagated entirely by birds. Although a large plant produces large quantities of fruit, one seldom if ever finds a seedling



FIG. 2.—ANOTHER LOT OF BELLADONNA.

All these plants are in partial shade. Those in the foreground are in "holes." The bank on the left is waste from a chalk-pit; no other soil. The plants on bank were transplanted during the hottest days of August 1915, and are now very fine heavy plants.

near an old plant. Single plants are found in all kinds of isolated places, while seedlings are almost invariably found under trees where birds roost. I cannot say if the



FIG. 3.—BELLADONNA FLOWERING TOP.

Photographed by the author from material in fig. 2.

passage of seed through a bird hastens germination, but the facts are worth mentioning, whatever the result may be.

With regard to situation, plants grown in partial shade give the heaviest crop; those which are in the shade some part of the day are nearly as good, while those grown in full sun and in constant deep shade are both equally poor. I contemplate planting elder, which is a quick-growing tree, to give the necessary shade, and at the same time to keep the ground damp, as I find the plants in damp situations are doing best. I have not had time to make many estimations of the alkaloidal strength of the belladonna, but the average yield of some strong plants grown on damp ground in partial shade was 0.665 per cent. of atropine; some smaller plants grown in full sun yielded 0.44 per cent. It is too early yet to estimate the probable yield per acre, as my plants are of different ages and grown under different conditions for experimental purposes. Early in June we planted out many thousand seedlings, from which definite information can be obtained both of the weight per acre and alkaloidal strength. Of the fertilisers tried nitrate of soda seems to answer better than sulphate of ammonia. Superphosphate of lime has had very little effect up to the present.

The Discovery of Benzene.

HOW much modern warfare depends upon the utilisation of the by-products of the manufacture of coal-gas is but dimly realised by many people. Yet the products separated from gas-tar liquors yield the greater part of the high explosives employed in the present war. Picric acid (trinitrophenol) and trinitrotoluol ("T.N.T."), which are being used in enormous quantities, are both obtained from the same source. The lighter portions of the tar-residues consist of benzene (benzol), toluol, and xylol, which are separated by distillation in an apparatus working on the same principle as the Coffey still used in the purification of alcohol. (Since the war began British distillers have operated a new process and the people are benefiting.) Benzene was discovered about ninety years ago by Michael Faraday, who at the time was Director of the Laboratory of the Royal Institution, London. It was on June 16, 1825, that Faraday read his paper before the Royal Society which announced the discovery. The title of the paper was "On New Compounds of Carbon and Hydrogen and on certain other Products obtained during the Decomposition of Oil by Heat." The circumstances of the discovery are best told in Faraday's own words:

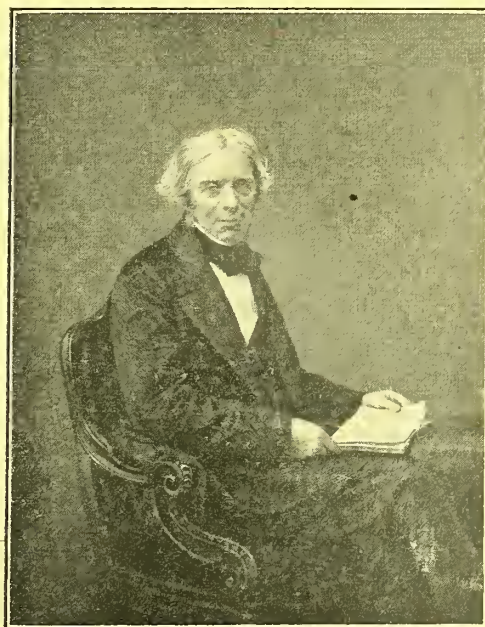
My attention was first called to these substances formed in oil at moderate and at high temperatures in the year 1820, and since then I have endeavoured to lay hold of every opportunity for obtaining information on the subject. A particularly favourable one has been afforded me lately, through the kindness of Mr. Gordon, who has furnished me with a considerable quantity of a fluid obtained during the compression of oil-gas, of which I had some years since possessed small portions, sufficient to excite great interest, but not to satisfy it. It is now generally known that in the operations of the Portable Gas Co., when the oil-gas used is compressed in the vessels a fluid is deposited which may be drawn off and preserved in the liquid state. The pressure applied amounts to thirty atmospheres, and in the operation the gas, previously contained in a gasometer over water, first passes into a large strong receiver and from it by pipes into the portable vessel.

Faraday stated that one gallon of the fluid is obtained from 1,000 o.f. of good gas, and he gave the physical characters of the "thin light fluid." He clearly recognised that the liquid is a compound, as he said:

This fluid is a mixture of various bodies, which, although they resemble each other in being highly combustible and throwing off much smoke when burnt in large flame, may yet by their difference in volatility be separated in part from each other.

Faraday then relates how by a system of fractional distillation he obtained a substance of definite boiling-point, "a new compound of carbon and hydrogen which I may by anticipation distinguish as bi-carburet of hydrogen." This is the substance now known as benzene. It was afterwards obtained from benzoic acid and called "benzin," a name which Liebig changed to benzol, which is still the

commercial name for what scientists call benzene. It was soon afterwards recognised in the products of coal-distillation. In the oil-gas liquid Faraday detected



MICHAEL FARADAY.

(From a contemporary portrait.)

another "new carburet of hydrogen," which he did not further distinguish, but which is now known as butylene. Faraday, in his paper, gave many details of how he arrived at the chemical composition of his bicarburet of hydrogen. He noted that it crystallises at about 32°, and in referring to the action of acids upon it mentioned that with nitric acid "the odour of the substance with the acid is exceedingly like that of almonds, and it is probable that hydrocyanic acid was formed." This we now know to be nitrobenzene (oil of mirbane), the discovery of which is usually attributed to Mitcherlich in 1834, but there can be little doubt that Faraday first made it. He did not at the time recognise the importance either of his discovery of benzene or of nitrobenzene, but he mentioned that the bicarburet had been found to be a solvent for caoutchouc "surpassing every other substance in this quality." It was also suggested as a solvent for making varnishes and as being suitable as an illuminant in a vapour-lamp.

It is interesting to add that Ostwald, the German chemist who, by devising methods of employing poison-gas in warfare, has done more to disgrace Germany and German chemistry than any other man, when lecturing before the Columbia University, New York City, in 1906, placed the scene of the use of oil-gas referred to by Faraday in Berlin!

JAPANESE CHEMICALS.—The "Board of Trade Journal" states that the following chemicals and drugs are now being made in Japan: Acetanilide, acetic acid, acetic anhydride, aloin, alum, hydrous ammonia, ammonium oxalate, aniline dyes, antipyrine, arsenious acid, aspirin, barium chloride, benzol, bismuth subnitrate, bromine, calcium carbonate, calcium chlorate, calcium sulphate, carbon bisulphide, castor oil, caustic soda, citric acid, creatine, digitalin, ether, ethyl alcohol, formalin, glycerin, hydrochloric acid, ichthyl, iodine, iodoform, lactic acid, magnesium carbonate, magnesium oxide, magnesium sulphate, menthol crystals, morphine muriate, naphthaline, nitric acid, opium, oxygen, peppermint oil, phenacetin, protargol, phosphoric acid, phosphorus, quinine muriate, salicylic acid, salol, sodium, sodium carbonate, sodium bicarbonate, sodium peroxide, sodium salicylate, saltpetre, sulphuric acid, tannic acid, and potassium yellow prussiate.

Stabilisation of Drugs.

Observations which show that Old Methods for making Galenicals need Revision.

PROFESSOR P. VAN DER WIELEN delivered recently a lecture on this subject, the first of a series on "Modern Methods in the Preparation of Medicines," at a meeting of the Amsterdam Department of the "Nederlandsche Maatschappij ter Bevordering der Pharmacie," which was published in the "Pharmaceutisch Weekblad." The active principles of drugs, such as alkaloids, glucosides, etc., are in general decomposition-products of the substances which are originally present in the fresh plants. We know only partly the processes which take place after the gathering of our medicinal plants, but the changes of colour and odour show clearly that changes take place in the plants. In special cases these changes are artificially promoted by the treatment to which we submit the drugs—such as, for instance, the case with tea, cocoa, tobacco, etc.—the flavour of which is mainly due to the fermentation-process to which the drugs have been submitted. On the other hand, there are drugs the activity of which decreases by the simple process of drying. One of the best-known examples of this class is the kola-nut. As long ago as 1864 Daniell stated that the natives of West Central Africa attributed much value as a medicament to the freshness of kola-nuts. Bourquelot discovered ferments in kola

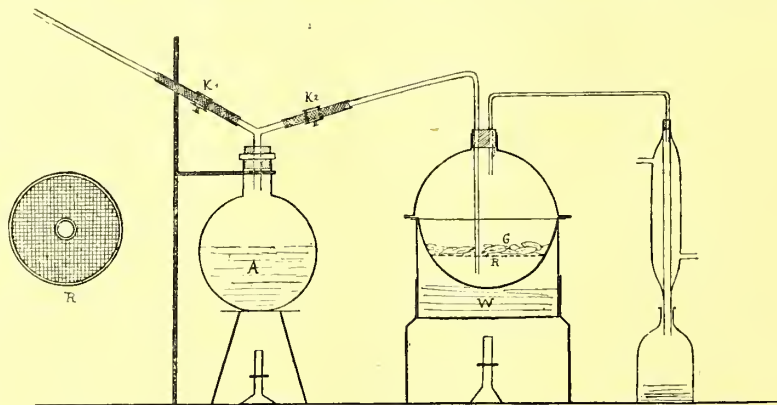
in 1896. He found that an extract of fresh kola-nuts that had been submitted to the action of boiling alcohol remained nearly colourless; preparations made of fresh nuts that had not undergone this treatment, and also preparations of dried nuts, gradually assumed a dark colour, which was attributed

by Bourquelot to the presence of koloxydase in the fresh and the dried nuts. Goris and Arnould, in 1907, devised a method of destroying the ferment in kola without decomposing the active principles. It consists in exposing the nuts in an autoclave to the vapour of alcohol at a temperature of 110° C. It is necessary that the nuts should be brought to this temperature as soon as possible in order to prevent the active principle being decomposed by the ferments. For this purpose the whole apparatus must have reached the temperature of boiling alcohol before the basket of nickel-wire, containing the nuts, is introduced into it. After the autoclave is closed, the temperature is raised in the shortest possible time to 110° C. After ten minutes at the most the ferments of the kola-nuts, the oxydase as well as the lipase, are destroyed. From nuts that had undergone this treatment Goris prepared his kولاتine and kولاتeine, both substances which resemble the catechines in composition and properties, and which do not occur in the dried nuts. Although inactive in themselves, they appear to have a great influence upon the activity of other principles in the drug, and it is their presence in the stabilised drug that accounts for its superior therapeutic effect.

The method of stabilising drugs described by Goris and Arnould is rather troublesome in use. It is difficult to close an autoclave sufficiently tight that a temperature of 110° C. can be arrived at when alcohol is used. The rubber rings of the autoclave are not proof against vapour of alcohol at that temperature. Every time the apparatus is opened in order to introduce a fresh quantity of the

fresh drugs into it a large quantity of alcohol escapes, and, moreover, an autoclave useful for this purpose is not to be found in every pharmacy. Professor van der Wielen has therefore devised another apparatus, the principal part of which consists of a vacuum pan with a water-bath, as shown in the illustration. On a grating (R) of nickel wire, that has an opening in the middle, the fresh drugs are laid. When fresh herbs require stabilising, the alcohol in A and the water in the water-bath (W) are raised to boiling-point, while the tap K_2 is closed, K_1 being left open. As soon as the alcohol boils vigorously, and the vapour escapes through K_1 , this tap is closed and K_2 is opened, and the alcohol-vapour led through the warm pan until it no longer condenses in it, but escapes through the tube fixed to the cooler. In order to test the working of the instrument, Professor van der Wielen introduced into it leaves of *Petasites officinalis*, which are very rich in oxydase. In order to find out whether the oxydase in different parts of the leaves had been destroyed or not, an extract of these parts with water was mixed with some aloin from Curaçao aloes, which assumes a violet colour when the oxydase has not been destroyed. It was found that a contact of forty seconds with the vapour of alcohol was sufficient to destroy the oxydase in the leaves, and from three to ten minutes for destroying the ferment in the thinner and thicker petioles. As the juice of the fresh leaves gradually becomes darker, in testing it with

aloin it is the best way to divide the solution into two portions and to add aloin only to one of them. If there is no striking difference in colour after a short time, one can be sure that the oxydase has been destroyed. This proved to be the case, even with the thickest leaves of *Petasites*, after they had been in the apparatus for



APPARATUS FOR STABILISING DRUGS.

two minutes. A loss of juice does not ensue from this treatment. The amount of juice that can be pressed from the stabilised and from the fresh leaves is the same. The juice of the stabilised drug contained 10 per cent. of alcohol as a result of the treatment with alcohol-vapour.

The apparatus has been used for controlling the time necessary for destroying the ferments in barks and seeds. For this purpose the bark of *Æsculus Hippocastanus* has been made use of. This bark assumes a brown colour immediately after it has been stripped from the tree, in consequence of the action of living ferments. This brown colour does not occur when it has been submitted to the vapour of alcohol for a very short time immediately after stripping from the tree. Probably the therapeutic effect of preparations of the bark of *Æsculus Hippocastanus* is due to the presence of tannoglucosides, which are gradually decomposed if the ferments in the bark are not destroyed. Preparations of the stabilised bark should therefore be more effective as a medicament than preparations made of the dried bark.

In order to destroy ferments in dried seeds—such as bitter almonds, for instance—these should first be soaked in water. The ferment (emulsin) and the glucoside (amygdalin) remain localised in their particular cells; if, after standing a few hours, the almonds are subjected to the vapour of alcohol for from thirty to forty minutes, the emulsin is entirely destroyed and no benzaldehyde or hydrocyanic acid is developed when the almonds are crushed with water afterwards. The absence of living emulsin can be controlled by means of the picric-acid-soda

test-paper of Guignard. If the almonds are not soaked with water beforehand it requires more than an hour to destroy the emulsin. In dry plants the ferments are very resistant to high temperatures, and this accounts for the fact that in preparations made of dried drugs the ferments continue to decompose the active principles, even when preparations have been made with concentrated spirit. Buckthorn-bark, the enzyme of which causes an emetic action, should therefore not be kept very dry, as this would preserve the ferment. In horseradish, which cannot be kept dry, the ferment soon loses its activity, but at the same time the quantity of active principles is much decreased. In mustard-seed, on the contrary, which can easily be kept dry, the myrosin and sinigrin can both be preserved for a long time.

The above-mentioned apparatus has proved to be suitable for stabilising drugs, where it is required to exclude the decomposing action of the ferments on the active principles, such as digitalis-leaves and valerian-rhizome, and for drugs in which it is desired to destroy the ferment on account of undesirable properties—*e.g.*, buckthorn-bark. By keeping digitalis-leaves dry, the interaction of the ferment on the active principles can be prevented, but so soon as acetum digitalis or tinctura digitalis is made from the drug the digitalase develops its activity to the full extent. Preparations of stabilised valerian-rhizome are much more effective than preparations made of the dried rhizome; they remain colourless, while preparations of dried rhizome gradually get darker. It would be interesting to ascertain by examination whether a similar cause accounts for the decrease of the activity of coca-leaves. It is generally known that a recently made extract of male fern is a more powerful anthelmintic than old extract, which deteriorates in consequence of the decomposition of amorphous principles into crystalline flicic acid. The extract should be freshly made from the stabilised drug every time it is required, as the drug itself also deteriorates in consequence of the decomposition of the vermifuge principles by the ferments.

For the preparation of homœopathic tinctures and alcoholatures the fresh drugs should also be previously stabilised. Experiments by Professor van der Wielen have shown that in juice pressed from fresh petasites-leaves the oxydases gradually destroy themselves while decomposing the other substances in the juice. The same process takes place in the juice when it is mixed with an equal volume of alcohol. This bears a resemblance to the process that is thought to take place on keeping buckthorn-bark and scurvy-grass. According to the Dutch Homœopathic Pharmacopœia, the tinctures are made by mixing the pulp of the fresh herbs with twice its weight of alcohol. If petasites-leaves are treated in this way it is found that the oxydase is localised in the pulp, as only traces of it occur in the alcoholic solution. This is the more remarkable as alcohol does not usually hinder the interaction of the oxydase on the substances that are dissolved in the alcohol, as can be proved by means of the aloin test. The conclusion is reached that the process in the Dutch Homœopathic Pharmacopœia for making tinctures is not a rational one, though it is much better than the method in which the juice is first pressed from the pulp before adding alcohol to it. For the preparation of dialysed tinctures it is a matter of consequence that they should be made from stabilised drugs. Professor van der Wielen is still working on the subject, but so far he concludes that the official methods for making galenicals require revision.

THE UNION BETWEEN AUSTRIA AND GERMANY is not an economic one, says the "Pharm. Zeitung," commenting on the irritation which has arisen in Austria about the German Government measures as to the exportation of chemicals and medicaments.

OPIMUM SMUGGLING.—At Shanghai, a Chinese provision-dealer was fined 10,000 taels and sentenced to three months' imprisonment for having 126 lb. of opium on his premises. He was engaged in financing smugglers who bring in the drug through Siberia.—Ten Chinamen in Calcutta have been sentenced to from three to nine months' rigorous imprisonment for holding illicit opium; two of the men had 4½ seers (about 10 lb.) of opium wrapped round their calves and waists at the docks.

A Cheery Chat

With Sir Edward Evans on the War's Effects on British Pharmacy.

WHEN Sir Edward Evans was President of the British Pharmaceutical Conference four years ago, the fact was appreciated by some that he was the first man to occupy the position who had received the King's accolade. In the Pharmacy of the British Empire there was only one prior instance of a person of title holding a similar position.

Sir D. J. Corrigan, Bart., M.D., the first President of the Pharmaceutical Society of Ireland. The two go together—the Conference and Ireland are in this respect distinctive in British Pharmacy. But there the allusion must stop, for our reference to Sir Edward Evans is in connection with the drug-trade during this war period, and his title is a mark of his accomplishments in



SIR EDWARD EVANS.

public life, in connection with the government of the country, and in association with those who rule. It has been his part (call it good fortune if you please) to be on friendly terms with those who were in the Government when this war commenced, and this implies that he is a man of sound judgment, trusted as an adviser, and reliable as a worker. These and some other characteristics and distinctions natural to Sir Edward cannot be excluded from an interviewer's mind, and although they are barred from conversation, one cannot forget that Sir Edward's five decades of commercial life and political experience give special weight and wisdom to what he says on trade matters. "You know I'm an optimist," was the first thing he said after the good-morning greeting in the historic hall of the Reform Club, Pall Mall. Sir Edward had come up to London for the day to confer with other political men, mostly of the other party, in regard to an important matter relative to future governance. At this we may leave it, although in principle it is not altogether dissociated from our subject. The fact that he is in touch with Parliamentary and Government leaders of all parties and one of the directors of the largest business of its kind in the Empire is evidence that what he says is backed by exceptional knowledge and experience. His bright outlook is delightfully inspiring. His reputation as a Free Trader does not imperil his waygoing, for, like many in commercial life to-day, he recognises that in some respects we shall have to modify trading conditions after the war, and he has confidence in British good will that all parties will have a fair hearing and a just decision when matters have to be rearranged.

Speaking about the effects of the war upon the drug-trade, he said that the difficulties which his business had to encounter were practically the same as everybody else's. On many occasions they had some exceptionally hard problems to tackle, and these still occur occasionally; but on the whole Sir Edward is strongly of opinion that "nerve" in buying was one of the most potent helps to the chemical and drug trades when war broke out—in fact, that was the thing which saved the situation in many businesses. Sir Edward considered that nerve in buying was the first business essential, and it had, of course, to be

backed up by plenty of capital. Evans Sons Lescher & Webb had both, and they bought very largely from the time that war appeared to be inevitable, and the conviction that the war would be a long one helped the buyers. One of the principles which the company have observed from the beginning has been to supply their customers with goods at the current rates, and not to deny them even when they knew that the prices were likely to go higher. Another feature of their activities during the war period is that they very promptly sent their representatives to countries, such as Spain and Portugal, where it was known that German houses had established a good connection. The object of this was to assure the buyers in these countries that they could get everything from Evans's. In this way they were able to do business in the same goods that the Germans had been supplying, and established new connections, which they mean to keep as time goes on.

Then the conversation turned to some of the matters which the public were at the moment learning something about through the morning newspapers. Cultivation of herbs was one of these, and Sir Edward recalled his presidential address to the Edinburgh Conference, and the paper read to it by his nephew Mr. J. H. E. Evans on the more extensive cultivation of drugs in the British Empire. Sir Edward himself said on that occasion, among other points on the subject:

I bring this matter before you as possibly this Conference may think it worthy of consideration that our own Government might form in the Board of Agriculture a Department, such as exists in the United States, to further the growth in this country of herbs, roots, etc., which the small holdings or allotments might be the channels of carrying into effect. I should like to point out that the soil of this country seems adaptable for this purpose, as what it does produce is superior to any produced elsewhere; for, instance, digitalis, henbane, colchicum, valerian, and belladonna, to say nothing of peppermint, lavender, and other aromatic herbs.

A Government Commission was subsequently appointed, and this and allied subjects were included within the scope of its inquiry, but the war has interfered with its progress. Sir Edward's remarks were engendered by a visit which he had recently made to the United States, where he had the opportunity of seeing what the Bureau of Plant Industry was doing. In this connection it is of special interest to recall the declaration made in Germany recently to a somewhat similar effect—viz., that if Germany is to keep up her supplies of herbaceous medicines she must do something on the American lines, for the United States is beating her. It is of interest also to mention that a distinguished American, Dr. F. B. Power, who left this country shortly after the war started, had been placed upon the Committee of the body over which Sir Edward presided, and has been appointed by the United States Government to direct a department of research connected with medicinal plants.

From botany to chemistry was a light step in the conversation, and Sir Edward recalled what he had said on the subject at the annual meeting of the shareholders of his company in March. We may quote a passage from his speech which has special reference to what they are doing in chemicals:

Since the war broke out many new arrangements have been made, including the new works at Runcorn for the manufacture of many articles hitherto only obtained from Germany. There will be a difference in many respects in dealing with the various Dominions of the Empire and the Colonies, who have so bravely come forward to help us in this great war, and no doubt there will be a closer alliance in many directions than there has ever been before. After the war there will be a vast increase of business for all the manufacturing and distributing industries in this country; therefore it behoved them all not to make up their minds too hurriedly in reference to fiscal arrangements till after the war, but watch events very carefully.

These chemical-works are the first-fruits of a scheme of research which Sir Edward's company established with Dr. W. A. Caspari as the director. The latter is a science graduate of Victoria University, and also of Jena University. The company's work in connection with salvarsan is now known, but in several other channels they are producing chemicals that have not hitherto been made

in this country, while their work in the production of serums and vaccines has been going along steadily at their bacteriological laboratories in Runcorn.

It is well known that the Evans houses are noted for their handling of medicinal drugs, especially fixed oils, and this is a curious example of the persistence of an early reputation into times when a business has extended its facilities in other directions. When Sir Edward's father was a comparatively young man, cod-liver oil was introduced as a therapeutic agent, and Mr. Edward Evans bought half-a-dozen barrels of it which had been imported into Liverpool from Newfoundland. This started the business, and Sir Edward remarked, "We got a reputation for it, and have kept it." As to the present supply, he remarked that the high prices have stopped pharmaceutical business to a large extent, and most people are getting along without it. Castor-oil difficulties, now surmounted, were pretty severe for some time after the war began, and that is a big Evans line. While talking about labour and other difficulties which have affected all business during the war, Sir Edward mentioned a few big items which have moved up solely on account of the shipping conditions. The Evans buying branch in New York purchased very large quantities of cascara sagrada, but can only get it over to this side of the Atlantic in comparative dribbles, and freightage has more than doubled the price. "Montserrat" lime-juice was also affected similarly, because no steamers were allowed to call at the island until Messrs. Evans, as contractors to the Government, told them that they could not get the juice unless they allowed it to be brought to Liverpool. Then Sir Edward's optimism was illustrated in his quiet remark to the effect that any real difficulty in such matters is removed as quickly as possible if the proper Government Department is approached in the right way. He has the same hopeful feeling in respect to the business future, pointing out that many new outlets for business have occurred since the war began. Perhaps the need for supplying our Allies with chemicals and medicines has been the most prominent of these. Evans Sons Lescher & Webb have sent many shipments to the Russian Government. Sir Edward mentioned some of the lessons that this development of business has taught us. For example, it is now found that the demands made upon German chemical-manufacturers for certain medicinal products were little known in this country, but the demands for them from Allied countries have enabled us to realise how largely Germany has produced these articles, and the big business she did in them. We have had to meet this demand, and the fact that we have met it is one of the most striking things that have occurred during the war, for it proves our capabilities and our willingness to tackle difficulties which were undreamt of when the war began. Sir Edward is emphatically of opinion that the war will be of great commercial and industrial benefit to this country when we are freed from the war's special demands upon us, know better the possibilities before us, and have the time and the men to equip ourselves for the new era. What we have done has been while we have laboured under several serious and new conditions, not to mention diminishing male labour, the introduction of women to do the work of men—"Many of them do it very well indeed," Sir Edward remarked—and other impediments to normal and smooth working.

As Sir Edward chatted the future looked rosy. His perfect confidence in British ability to do the right thing, his knowledge of things that can be done better and how to go about it, and his intimacy with the best opinion of the day indicated that after the war the British drug-business will be a better business, and that we shall have to rely more upon our own work. This bright note made it difficult to realise that since he was at the head of the B.P.C. Sir Edward has had a severe illness. He has got the better of that, and our inquiries elicited the assurance that he can play as good a game of golf as ever; also we reported on July 1 that he celebrated his seventieth birthday by playing three friends two rounds on his favourite course—Hoylake, one of the hundred courses he has played on.

Vegetable Alkaloids : How the War has Affected their Production.

By D. B. Dott, F.I.C., F.R.S.E.

Abstract of a Paper read before a Congress of the Society of Chemical Industry on July 20, 1916.

FOR some time after the outbreak of hostilities alkaloids and other fine chemicals which were chiefly produced in Germany found their way into the United Kingdom through the neutral countries, including America, Switzerland, which does a considerable manufacturing business of her own, is in a favourable position for sending things into Italy, which things have in many cases been produced in Germany.



MR. DOTT.

That process of indirect importation is now doubtless reduced to a minimum, and we have to depend more on what we can make for ourselves, or obtain from allied or friendly countries. The outstanding effect of the war on the production of alkaloids in this country has been to increase greatly the output of those which British makers were already producing. This increase has been mainly caused by the exclusion of Germany as a source of supply.

Except for morphine and opium alkaloids, Germany has done a bigger business in the preparation of alkaloids than Great Britain, while the production of atropine and some of the rarer alkaloids has been almost exclusively in German hands. The medical requirements of the Army must be included in the causes of increased demand. Comparing the prices of alkaloids in May 1914 with those of May 1916 we find an increase in every case, one of the smallest being morphine hydrochloride, from 8s. 3d. to 13s. 6d., and the largest atropine sulphate, from 20s. to 160s. There is a scarcity of some of the drugs required for the manufacture of alkaloids, but opium, cinchona-bark, and nuxvomica can all be obtained without much difficulty. The war is responsible for the rise in freights and for the enhanced price of many of the necessary solvents, the Government having commandeered or limited the supply of several of the latter. These are among the causes of increased prices.

According to the best information available the making of alkaloids in this country which were formerly made almost exclusively in Germany has not as yet attained considerable proportions. Manufacturers are fully occupied with supplying the increased demand for their standard products. With a reduced staff and limited supply of labour the conditions are not favourable for embarking on new processes. The difficulty in obtaining delivery of newly constructed plant is another obstacle. At the same time there is no doubt that a good deal of laboratory-work is being done with the intention of taking up the preparation of alkaloids and other compounds as soon as conveniently practicable.

So far as can be ascertained the growing of medicinal plants in Britain for the purpose of preparing their active principles has very little increased since war began. Experimental work is proceeding, but our climate and soil do not seem to be well suited for almost any of the alkaloid-yielding plants.

If it were practicable to prepare any of the required alkaloids synthetically, now would be a favourable time for their production. Atropine and cocaine are both described as having been produced artificially, yet even with the present very high prices the processes do not seem to be practically available. One is led to think that if there is no paying process for the artificial production of these highly priced alkaloids, the probability of producing the much less costly morphine and quinine artificially is exceedingly remote, even were the problem solved of how to make them. On the other hand, real progress has been made in the synthesis of new compounds having some comparable value with the natural alkaloids. An indirect effect of the war must be to encourage the production of these synthetic substitutes.

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Fine Chemicals : Their Manufacture in Relation to British Chemical Industry.

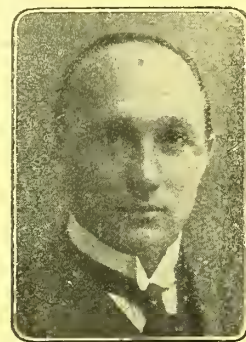
By C. A. Hill, B.Sc., F.I.C., and T. D. Morson, F.C.S.

Abstract of a Paper read before a Congress of the Society of Chemical Industry on July 20, 1916.

THE authors referred to the importance of the fine-chemical industry to the community. It provides medicines, reagents, and many other necessary things, and the problems involved in their manufacture differ from those affecting heavy chemicals. They compared the raw materials in both branches, showing that those in the fine-chemical industry



MR. C. A. HILL, B.Sc., F.I.C.



MR. T. D. MORSON, F.C.S.

are the finished manufactured products of other industries. Fine chemicals include (1) reagents, (2) pharmaceutical products, and (3) technical products. As to the first, a very slight alteration in the specification of reagents for analytical and research work may involve a complete change in the process of manufacture both in the apparatus and materials employed, which they detailed. Referring to the second group, they said it is indisputable that the manufacture of fine chemicals must be undertaken in a systematic and thorough manner, and upon a large scale, to have any hope of success. In the production of synthetic organic substances used in medicine, dovetailing of processes closely applies. One product hangs upon another; the raw materials for one synthetic substance are a by-product in the manufacture of another, this dovetailing of processes, and also of materials, being in fact a dominating factor, and the business must be on a large scale to enable it to be carried on profitably. Utilisation of by-products has been brought to a fine art in Germany. Many such products have been marketed and been forced into use. They showed how the demand for many German synthetic products during the war has led to unprofitable attempts to synthesise them *de novo*. "Lysidine" was mentioned as an example. The synthesis of this substance depends upon ethylene chloride and ethylidene chloride (by-products in the manufacture of chloral). Sporadic efforts are useless for the permanent establishment of the fine-chemical industry. The authors then passed on to the third group, technical chemicals, referring especially to the photographic industry and the development of the kinematograph-film, which has resulted in an enormous demand for collodions of various kinds, for amyl acetate, for urea, and for succinic and sebacic acids and their esters. Photo-process paper manufacture has also its special requirements of fine chemicals, gallic acid being of importance. This substance is required to some extent in medicine, but its use in the dye-industry, ink-manufacture, and the textile and photographic trades is far greater. Ample supplies of photo-process paper are needed in shipbuilding, engineering, aeroplane-building, and munition-work, but the manufacturers have been handicapped by the shortage of gallic acid and potassium ferricyanide, neither of which was being made in this country on a commercial scale at the outbreak of war. Reference was also made to the incandescent gas-mantle industry, the ceramic-industry, the production of fine colours, and such odorous products as ionone, terpineol, vanillin, and other similar agents used in confectionery, perfumery, and soap manufacture, all of which require special chemicals.

Speaking of considerations related to the future development of industries in this country, and the interdependence

of different branches of industry, the authors said it is essential that the manufacturers of fine chemicals should have readily available sufficient quantities of liquid chlorine, sulphur dioxide, sulphur trioxide, phosphoric anhydride, the chlorides and oxychloride of phosphorus, acetic anhydride, acetyl chloride, carbonyl chloride, the chloracetic acids, monochlor-toluene (benzyl chloride), aceto-acetic ester, phenylhydrazine, and a host of other organic reagents which are essential in the manufacture of synthetic remedies. They indicated some branches of work which the manufacturer must delegate to others, and expressed the opinion that the newly formed Association of British Chemical Manufacturers should prove most useful here. Then, speaking of *the past*, they said:

In considering the reason why the fine-chemical industry has in the past been peculiarly German, in contradistinction to the heavy-chemical industry, where Great Britain has held her own, there occurs to one's mind the marked reluctance in the past on the part of British chemical-manufacturers to take up the manufacture of any product unless there were already to hand, or likely to occur, a large outlet for it. Among fine chemicals we find this illustrated by the alkaloids, quinine, morphine, strychnine, and caffeine having been continuously and successfully manufactured in this country, whereas the alkaloids of less importance, considered from the point of view of total monetary value involved, such as atropine, eserine, aconitine, hydrastine, and hyoscyne, have been largely in German hands.

Business enterprise has been not less important than technical knowledge, and the authors mentioned how Germans used to go to our very Colonies in order to get the raw materials they required. They cornered Egyptian henbane and Russian wormseed by their syndicates, controlling the whole supply of these commodities and their active principles. After speaking briefly about *the present*, mentioning, in the course of this passage, that the manufacture of British salicylates has been established after two years' work, they proceeded to speak of *the future*, stating that the establishment of a British fine-chemical industry upon an adequate scale after the war cannot take place until the national resources in materials, plant, labour, and chemical knowledge are freely available. Our universities, colleges, and technical schools must also furnish supplies of technical chemists who are true technologists. It must not be complained by the manufacturers on the one hand that the supply is not forthcoming, nor pleaded by the teaching institutions on the other hand that the industry must first provide a field—i.e., that the demand must precede the supply. The two processes must go hand in hand, and, since it may take a generation to put the thing upon a proper basis, both manufacturers and teachers should begin at once. *Key-industries* were also dealt with. Many have developed enormously during the war, and should be placed upon a permanent basis. M. Henri Hauser, Professeur à l'Université de Dijon, has said:

"We have seen during this war that the absence of certain industries of a fundamental order has prevented the pursuit in the same country of other industries which utilise the products of the first class. How is it possible to make dyes or explosives when phenol cannot be made, and when no more of it reaches you from abroad? There are key industries, and the nation which allows such industries to die out from its midst loses the key which opens the door to others. Every industry is in relation to the industry immediately above it in the scale of production. To lose one such key means losing at once the means of opening the doors of the floor above; eventually it means losing the keys of all the floors."

Thus phenol and benzol are the key to the coal-tar dye-industry, which in turn is the key to the manufacture of many organic fine chemicals. Our Government Departments have secured for chemical industries supplies which have proved fairly adequate. The Insurance Commission as a department is characterised by business management and absence of red-tape. It avoided an actual famine in such medicinal necessities as alcohol, glycerin, and sugar. Sulphuric and nitric acids were mentioned as having been managed differently by the War Office, and in concluding the authors said:

It is an interesting comment on the importance which is attached to chemical industry by the public and official mind to reflect that no Board of Trade Committee has yet been appointed to inquire into the after-war conditions with which the chemical-trade of this country will be faced. Considering what has been done in other industries, it seems highly desirable that a Board of Trade inquiry should be instituted in regard to the problems with which the whole industry is faced, and to receive the views of representatives of the trade as to the steps which should be taken to meet the new conditions. No organisation has existed hitherto among British fine-chemical manufacturers such as to enable them to speak and act as an important branch of chemical industry. The time has arrived when such a voiceless condition should cease. It is to be hoped that the fine-chemical manufacturers will now form an Association which can represent this branch of the industry in the councils of the Association of British Chemical Manufacturers, and become an affiliated Section

of the parent body. If such an organisation can be evolved, having the whole-hearted support of the large majority of the fine-chemical manufacturers in this country, determined to sink their petty jealousies of each other, then a large field of highly useful work lies before it. Our growing chemical industry, which aims to place us in an independent position industrially among the nations of the world, must be given a fair chance. National and Imperial interests demand that the enormous and essential trade in fine chemicals shall never again be allowed to fall into the hands of our foreign competitors. The fight for international trade in the future will have to be waged, not by individuals, but by groups of manufacturers.

Synthetic Organic Drugs: Their Manufacture as Affected by the War.

By Francis H. Carr, F.I.C.

Abstract of a Paper read before a Congress of the Society of Chemical Industry on July 20, 1916.

WITH the outbreak of war a scarcity of synthetic organic drugs became apparent in this country, not solely because they were not made here, for several firms had already done important business in these lines; but antipyrin, aspirin, salicylic acid, phenacetin, chloral hydrate, salol, phenolphthalein, saccharin, veronal, sulphonal, trional, eucaine, and novocaine were not manufactured here, and the total import of this class of products was over a million pounds annually. With war conditions difficulties of production increased enormously, but these have been to a great extent surmounted. The author detailed some of the considerations which must face future production. The German power that we are fighting is largely chemical power. Salvarsan is a powerful illustration of our dependence upon Germany before the war, but the immediate intervention of Burroughs Wellcome & Co. in England, and of Poulenc frères in



Mr. F. H. Carr, F.I.C.

France, saved the situation. As to the future, some form of protection is of vital necessity to our chemical industry, for without it anything accomplished will be demolished rapidly and completely by competition from abroad. The author exemplified this by mentioning the recent combination of German dye and chemical manufacturers to meet opposition after the war, and he said that our enemies will recognise our successful prosecution of chemical industry here to be of greater material importance than the recovery of lost colonies and European territory. He also submitted that no opportunity should be lost of impressing upon the nation and its rulers the fact that the possession of a powerful and self-contained chemical-industry is of the same degree of importance as a great engineering industry has proved to be. Educational requirements and grants are only the initiation of the work. We must as a nation do something more to safeguard new industries; he instanced the synthetic production of camphor in this country as an example of the way we ought not to do things. That new industry was abandoned by the pioneers, with serious loss of money, when the State might have saved the situation by encouraging the manufacturers in some way.

German competitors will adopt a variety of skilful manoeuvres to combat the new developments in this country, such as charging high prices for intermediate products, offering low terms for finished products on long-period contracts, systematic dumping, etc. In this connection the absence from the Board of Trade Committees of any dealing with the chemical-industries is ominous. The author considered that an immediate decision to extend for a period after the declaration of peace the prohibition against the importation of German chemicals would have a far-reaching effect by giving confidence to capitalist enterprise. Dealing with fiscal relationship he said:

No doubt prohibition of long standing would bring about stagnation and do damage to certain trades, but it does not follow that an extension of the *status quo* for a fixed time would not be of great advantage. Medicinal drugs are not raw materials in any proper sense of the word, and high prices of drugs at least have the advantage of deterring the public from consuming too much of some of them. Should any tariff be imposed the money derived therefrom ought to be devoted exclusively to research and

education. Above all, any protective measures must be framed with the knowledge that scientific efficiency in production will determine in the long run which nation shall be strongest, and therefore an industry protected during its growth must be in a position ultimately to support itself unhelped. Technologists must rely upon efficiency, and not sympathy. . . . Representatives of each branch of chemical industry must define the extent of their requirements from other branches, which in their turn must co-operate. We look to the Association of Chemical Manufacturers to take the lead in these matters and to set afoot the necessary organisation to prevent overlapping and gaps, to arrange by mutual concessions that too many do not manufacture the same chemicals, and to secure the manufacture of those chemicals not already provided for. A further function of the Association will be to call upon certain branches of chemical manufacture to supply raw materials, such as SO_3 , chlorosulphonic acid, carbonyl chloride, phenylhydrazine, aceto-acetic ether, phosphorus pentachloride, etc., even though—on account of the smallness of the quantities at first demanded—such undertakings could be regarded as business propositions only by those far-sighted observers whose motives are tempered by regard for the chemical industry as a whole.

It was further submitted that we must organise in the new spirit; and as to the manufacture of synthetic drugs he considered that this will be determined by the dye industry, which can ensure the supply of intermediates required in manufacturing medicines, artificial perfumes, and photographic chemicals. He pointed out some of the plant that will be available, such as that of the new coke-ovens, and speaking with reference to other necessary articles he said:

So badly are we placed in this country with regard to supply of cheap alcohols, acetone, and acetic acid, and so important are these to this country in time of war and to chemical industry at all times, that some action should be taken to promote industrial research in these connections. Cheap and pure methyl and ethyl alcohols lie at the very foundation of fine-chemical manufacture. No other one obstacle has barred our progress in this industry so much as the Government restrictions on their use. Mr. Thomas Tyrer, to whom for his classic work on this subject we are all immensely indebted, has put the case so forcibly and well that in recent years we have been disposed to adopt a *laissez-faire* attitude, because there is little new to be said. This is apt to be misinterpreted by the official mind to mean that our grievance is assuaged, which is far from the case. In the synthesis of organic compounds methyl and ethyl alcohols are daily necessities, and must be used in large quantities. The restrictions make industrial methylated alcohol dear, while the impurities added for methylating are a constant source of trouble. If the authorities remove the duty from pure methyl alcohol (or shall we call it carbinol to obviate official confusion?) and allow pure methyl alcohol (as an effective ear-mark) to be used in denaturing, nearly all difficulties will be overcome.

The author also referred to the necessity for adapting education to the occupation that persons are to fill, mentioning that a city clerk needs shorthand and typewriting, but a chemical-worker must have a knowledge of physics and handicraft. In the future our authorities must pay greater attention to this matter.

Herbal Actualities.

ANYONE who has the least concern in regard to the production of medicines of vegetable origin has been overwhelmed during the past few months by the efforts of the daily Press to get people interested in the growth of plants which are medicinal in property or which yield medicines. A considerable proportion of the articles and letters which have been published stimulates the amateur instinct of doing something in war-time. A little over a year ago the collection of sphagnum moss in Scotland was the hobby of almost every woman who thought she had time to spare for doing something, and this has resulted in the foundation of a useful industry in Edinburgh, where the moss is prepared as a surgical dressing and is used with advantage. The medicinal-herb business differs in character, for while sphagnum trouble (collecting the wrong article) also applies, some of the plants required are only fit for collection after they have been cultivated for two or three years. Belladonna is an excellent instance, and its production is described on p. 772. Generally speaking, the growth and collection of medicinal herbs is a special business, and before the war our supplies were drawn from many countries in which the plants are indigenous, and in which the country people find it profitable to collect the wild herbs and to grow or to cultivate others, all the conditions being favourable to cheap production and advantageous marketing of the products. Getting

to the actualities of the matter, especially present conditions of supply, it struck one of the *C. & D.* staff that a conversation with Mr. Richard W. Wren, F.L.S. (Potter & Clarke, Ltd., Artillery Lane London, E.), would elicit some facts that are not generally known, or at all events a statement for the guidance of the drug-trade of a more definite character than has hitherto been published. The conversation with Mr. Wren was exceedingly interesting, and what he said is epitomised in the following statement:

The war has naturally had a great effect on Continental drugs generally. Coming so suddenly, it found most druggists unprepared, and before many months were past considerable difficulty was experienced in the supply of drugs which came largely from or through German and Austrian sources. In the case of some things this assumed an acute character, and in order to relieve the situation in the early part of the war permission was actually given by the Government for the importation of certain drugs from acknowledged enemy sources. To-day such permission would certainly not be given, and consequently the trade is thrown on its own resources. Speaking generally, the situation has been fairly well met, and by scouring Continental, Colonial, and American sources supplies of most articles have been obtained, though at greatly enhanced prices.

This year has seen a movement to collect and cultivate English indigenous plants and roots, so that we might rely upon home supplies for many things previously imported from Germany and Austria. Whether this will eventually become a success or not it is too early to say. The Board of Agriculture has issued a pamphlet on the question, a Women's Association has been formed, and the Royal Horticultural Society has also moved in the matter. That there are possibilities in the movement is not to be gainsaid, but it largely depends on the way it is led. If a properly organised co-operative system of collecting and drying can be initiated much may be done, but isolated attempts on the part of amateurs are bound to end in failure.

A few details may be of interest. First, with regard to culinary herbs. Spearmint can now be grown in this country to compete on equal terms with that obtained from abroad. Sage is being more largely grown, but the Austrian article has not been replaced. French and Italian sage is not nearly so fine in flavour.

Belladonna-root has gone up to a price more than three times its normal value. The Balkans were responsible for most of our stocks of this line. Of belladonna-leaves the same may be said. Here the English-grown variety will be available, but only in very small quantities. Digitalis-leaves are being collected at home, and there will be fair stocks, though prices will not be reduced. Dandelion-root we have kept in supply largely owing to our growers and collectors here increasing their output. The cost of labour and the absence of Continental supplies keep the price about double the normal. A few roots seem to be unobtainable, such as elecampane, bistort, colchicum, and hellebore. Only isolated and infrequent parcels are offered. Liqueur in all its forms has advanced on account of supplies being stopped. The juice is especially scarce and dear. Among herbs and leaves there are very few of which we cannot supply some quantity. Our agents on the Continent have been able (said Mr. Wren) to tap new sources, and in England our collectors have been encouraged by higher prices to make larger efforts, and thus a famine has been prevented. We also have the advantage of our own herb-farm, where we can vary the crops according to our requirements.

It will thus be seen that the situation has been met fairly well, and that we have seldom been at a loss to supply the requirements of our customers. Values have advanced generally, and will probably be maintained for some time, even after the war is finished. We should like to say that efforts to produce Continental drugs on English farms or by organised collection will always receive our support. The home-grown article is always superior and to be preferred from every point of view. What is required is a Committee in each likely locality who will educate the would-be growers and collectors, then form some kind of co-operative drying-facility, and sell the results on a commercial basis.

"PROVINCIAL HOSPITAL PHARMACOPEIAS."—Uniform with the "Chemist's Dictionary of Synonyms." Contains 296 pages, and consists of formulas for medical prescriptions used in twenty-five hospitals and infirmaries in Great Britain outside the London district. Price 2s. 6d., by post 2s. 3d., from the *C. & D.* Book Department, 42 Cannon Street, London, E.C., or leading wholesale houses.

The Supply of Fine Chemicals.

A. C. & D. MAN who called at W. Martindale's, 10 New Cavendish Street, London, W., sought out Dr. W. H. Martindale to find out how the day goes for England in regard to the manufacture of fine chemicals. Dr. Martindale's views on the growing dependence of this country upon Germany for fine chemicals are well known, and were expressed publicly many years before Germany decided that the time was ripe to obtain by military means the domination of the world. Those hopes are, fortunately for civilisation, becoming fainter, but this is having the effect of concentrating German effort on obtaining economic domination. This the Allies have decided to resist as strenuously as they have done military aggression. Dr. Martindale has lived in Germany and has no misgivings regarding the intentions of Germans. The C. & D. man's interview drifted into an interesting talk on the manufacture of some of the newer fine chemicals used in medicine, showing at least that there is plenty of characteristic British initiative about. For instance, phloridzin, a glucoside obtained from the bark of roseaceous trees, is being produced at the Martindale chemical works. Special means had to be taken to obtain supplies of plum and cherry tree barks, and then suitable methods for extracting the glucoside had to be devised. Text-books and patent-specifications as a rule define a given substance, but do not give the details needed by the manufacturer. There are, of course, well-known general methods of extraction, but it goes without saying that particular processes have to be worked out in each case. Phloridzin is in pinkish-white crystals, and, although it is credited with tonic properties similar to quinine, the chief use of the glucoside is as a test for kidney-diseases. If a dose of 0.01 gram of phloridzin is injected into the buttock, excretion of glucose is caused after ten or fifteen minutes. In extensive kidney-disease the excretion is delayed or absent. Another interesting subject was introduced by the inspection of samples of sodium chaulmoograte, a remedy which is being used for leprosy. A controversy has arisen as to the desirability of the presence of palmitate in this salt, and those who require the palmitate-free preparation can have it, although separation increases the cost of the salt. There are what are known as fractions "A" and "C," the latter comprising low-melting acids readily soluble in water, and hence adapted for hypodermic injection, while "A" fraction is usually administered *per os*. Those who are acquainted with Power and Barrowcliffe's research on chaulmoogra oil can appreciate the patient work which the preparation of these salts involves. Other interesting products which are being made are monochloroacetic acid, used as a caustic; aceto-acetic ether; phenol sulphone-phthalein, a test for nitrogen excretion; benzidine, a test for blood; isatin; *p*-phenylenediamine employed as a hair-dye; thiosinamin, used hypodermically, chiefly for softening scar tissue; phthalic acid; pyrogallol-monoacetate and triacetate, chemically the same as eugallol and lenigallol; chloralamid; benzonaphthol; allantoin, used as a cell-proliferant; thorium salts; albumin tannate, chemically the same as tannalbin; brom-albumen; colloidal metals—copper, gold, platinum, mercury, silver, selenium, and sulphur; dimethylglyoxime, a reagent; resorcin acetate; monochlorophenol; urotropine; and hydroquinone. Moss dressings are also being made, the moss sheets of compressed sphagnum being the most-used form; and the hypochlorite antiseptics now so much used in wound-surgery are made on a large scale. A new form of dry hypochlorite powder is shortly to be introduced. These notes sufficiently indicate that the foundations for the manufacture of certain fine chemicals have been truly laid, and it remains to be seen what steps the Government intend taking to foster the industry. In the meantime the support of chemists is wanted, and through them medical men also can be influenced to prescribe British-made chemicals. The following notice is printed in the last edition of Martindale's chemical list:

British Chemical Industry—especially organic chemistry—needs the ardent support of every medical man and retail chemist.

We do not pose as pioneers, but in our small way we have followed the trend of events in the heart of the British medical world, and we have always regretted every penny that has gone abroad.

The easy-going tolerance of German products must in future give way to a preference for the goods of British manufacturers, and every dispensing chemist can do his "bit" to help to build up a strong chemical-industry in this country

LOGWOOD EXPORTED FROM BRITISH HONDURAS is now subject to an export duty of 50 cents per ton.

Maw's Page.

WHETHER time is fleet of foot or passes with leaden gait is a matter of temperament, but it is difficult to realise that it is nearly five years since "Maw's Page" became a feature of the advertisement pages of THE CHEMIST AND DRUGGIST. The page in this issue bears the number 250, and it also contains the fiftieth article contributed by the writer who is known to the outside world as "Capsule." As a matter of interest we reproduce the first "Maw's Page," and any of our readers can satisfy themselves by a comparison with the one appearing in this issue, that the standard has been well maintained. On the strength of the 250th weekly appearance of "Maw's Page" the writer called round at S. Maw, Son & Sons', 7 to 12 Aldersgate Street, London, E.C., to seek confirmation as to the success of this distinctive feature in advertising.

No. 1

S. MAW, SON & SONS
7 to 12 ALDERSGATE ST.
LONDON, E.C.

Maw's

Page.

To depart from the traditional style of press publicity offers sufficient excuse to prefer No. 1 of "Maw's Page" with a few introductory remarks. "Maw's Page" is a new era in trade paper advertising. It is advertising born of confidence in our production, and based on the reputation of the Maw. "Maw's Page" has been introduced only after careful deliberation, and we trust it will become a potential factor in maintaining the happy relationship which exists with our friends in the Trade. The policy A. POLICY, AND of "Maw's Page" will be to A REASON keep our specialists before Pharmacists in an interesting manner, eliminating the needless self-appreciative tone which so often marks—and mars—the ordinary advertising of ordinary goods. We ask for criticism of "Maw's Page." We ask all Pharmacists closely to follow, and "MAW'S PAGE" the articles in succeeding issues, and to turn to it every week for profit and advice, and for all that is new and good in wholesale salarship. Tempore mutante, nos et mutamus in illa.

Yours obediently,
S. MAW, SON & SONS.

AN INHALER WHICH GIVES SATISFACTION

An inhaler which gives satisfaction, gives relief. Maw's Chloride of Ammonium Inhaler is in every respect an efficient remedy for nasal and pharyngeal catarrh, sore throat, bronchial affections, diphtheria, &c., and will be in demand during the coming months. It is strongly made, simple to use, and put up complete with Hydrocarbon Andro and Solution of Ammonium Chloride. Why not purchase in adequate supply?



Wholesale 55/- doz. Sells from 75/- to 225/- each. Quality and profit in good on a sale.

Mr. Albert F. Porter, manager of the home department of the business, confessed that the object in view has been achieved, and that chemists throughout the world turn to "Maw's Page" to find out what is new in druggists' sundries. Of this there is both direct and indirect evidence. Knowing the difficulty there is in maintaining interest in any literary venture, our representative spoke feelingly when he congratulated Mr. Porter on "carrying on" so successfully. "There have been times," replied Mr. Porter, "especially during the war, when the flow of novelties has not been upon as lavish a scale as usual, but we have always found something which we could put before chemists with the full confidence of the House behind it." War difficulties there have been at Maw's, but the business has shaken down now into regular routine. This has been largely helped by the fact that for years before the war it had been the custom of the house to give preference to home manufacturers and to endeavour to get British makers to take up special lines in which Messrs. Maw deal. This policy has been the means independently of securing the best quality goods, of rendering it easy to maintain supplies. Soon after the war started it was recognised that with the large Government contracts which the firm hold special provision must be made to cope with war orders. Five separate premises have had to be taken in which to carry on the extra work caused by Government orders. In this way the business has been carried on without interfering with the huge trade normally done with chemists. Staff difficulties there have been, because Maw's have sent ninety men on active service, but by engaging women workers well ahead these were able in many cases to receive tuition from the men whom they were replacing. Further conversation brought out the interesting fact that every week a letter is sent to each of the men in the Forces, containing House news and any particulars which come to hand from any of those on active service. These reports are everywhere welcomed. Maw's have men in all parts of the Allies' war area, and some extremely interesting letters have been received from the trenches. Literary talent has been discovered in unexpected quarters, and it can be claimed with truth that this series of weekly letters forms a popular history of the war equal to any that have been published. Thus in the fighting line Maw's men are kept in touch with each other and with the firm, which is proud of its employes who are taking an active part in the fight against barbarism. Unfortunately, four of the soldier staff have fallen on the field of battle, but it is certain that their memory will always be cherished by those who worked with them at Maw's.

The Art of Window-advertising.

By James W. Harper, Starbeck, Harrogate.

IN all successful advertising, whether it takes the form of a window-show, a poster, a showcard, or a magazine advertisement, there is always something which rivets first of all the attention, then quickly tells its

"Peps—a pine forest in every home"; and "Pears' Soap—Matchless for the Complexion" may be regarded as advertisements to which the familiar proverb "Familiarity breeds contempt" is not applicable. In my



FIG. 1.—A "SPRING" WINDOW.



FIG. 2.—A NAVAL DISPLAY.

story. A well-known example is Mr. John Hassall's famous poster of the vacuum cleaner chasing out of the room a servant who is shrieking "Help! Help!" We are attracted immediately by the humorous incongruity of the picture, and the next instant we recognise that the vacuum cleaner is superseding the brush and dust-pan. Very often the attention is riveted by a play upon words. In another famous Hassall poster we have a clown built up entirely of incandescent mantles giving "a really bright idea" to another figure in the picture. In this case we learn that certain incandescent mantles give "a really bright light."

In successful window-advertising we require something striking in the same way, hence the popularity of really good showcards. I think the time has gone by when we can attract attention to our windows by simply arranging boxes and bottles in rows. "The old order changeth, yielding place to new." Some advertisements may be regarded as good old staggers: "Beecham's pills—worth a guinea a box";

opinion the very fact that they have been drilled into our ears for years gives them additional value. I remember that when I was a boy and a member of a Christy Minstrel troupe we used to make jokes out of some

of these advertisements. They were rather crude jokes, but quite harmless, and there is no doubt that they further advertised the articles. Just fancy for a moment Brother Bones asking Brother Sambo for change for a 5*l.* note, and Brother Sambo replying by carefully counting out 3*l.* 19*s.*, then pulling out of another pocket a small box of Beecham's pills and quietly remarking, "Worth a guinea a box, Brother Bones." This always raised a laugh and did not do any harm to Beecham's pills.

To take another example, this time a pictorial one, Johnny Walker

whisky. Hundreds of thousands of people must be familiar with the gallant gentleman who advertises it on the hoardings. The advertisement has gained an added value simply because we have become so familiar with the gentleman as to regard him as an old friend. What



FIG. 3.—A WAR WINDOW.

I have already said also holds good here. Our attention is first riveted by "Johnny Walker," and the tale is then very briefly told in three words: "Still going strong."

Messrs. Pears have had some beautiful advertisements on the hoardings. I think Sir John Millais' famous "Bubbles" one of the finest they ever had. Several superior people thought it *infra dig.* of Sir John to have painted such a beautiful picture which should be used as an advertisement, and the late Mr. Barratt had even to convince the great artist that he was doing a public service by allowing the picture to be used by Pears. As a result of Millais' consent the picture gave pleasure to thousands of people daily all over the world.

In this article I want to show how I use my window in telling, as pictorially as possible, something that I feel people are thinking about, my object being to associate it with something I have to sell and which they are buyers of—Wright's Coal Tar Soap. It is a well-advertised article, and I reckon that window-displays of it are like a follow-up advertisement. The first example was an extremely simple volcanic display, and proved an excellent soap-seller. The background was made of dark-green tissue-paper. The volcano was cut out of demy white paper, shaded with chalks, and gummed on to the green background. The eruption consisted of strips of white paper and coal-tar soap wrappers, also gummed on to the background, while the letters (also cut out of white paper) were pasted some on the background and some on the window. It will be noticed that this is a "Spring" window, with emphasis placed on skin-eruptions, pimples, blotches, etc. The display was arranged in April, and the idea was that the soap would be bought along with spring medicines, blood-mixtures, etc., as an auxiliary to treatment, and such proved to be the case. This accounted partly for its success. There was another reason, however, a psychological one, which could be explained in this way: A lady passing the shop is attracted by the volcano. The play upon the word "Eruptions" next fixes her attention. She then steps back a yard or two in order to take in the whole advertisement, and she comes to the conclusion that if she can ensure a clear complexion for 4d. it is a cheap investment, so she just steps into the shop to buy a tablet. As there were quite five hundred tablets of soap placed in the bottom of the window, she must also come to the conclusion that this is evidently the shop for soap. It will be noticed that this advertisement was made entirely out of paper and cost only a few pence.

Fig. 2 requires very little description. It will be noticed that the efficiency of the two British tars (Jack Tar and Coal Tar) is brought out at every turn. The lettering on the window read:

TWO BRITISH TARS.

JACK TAR DISPERSES THE GERMS.
COAL TAR DISPERSES THE GERMS.

The Coal Tar Soap was arranged in the bottom of the window, with Jack Tar (a very large doll) sitting upon one of the packages, while the background ("The Charge of the Wright Brigade") was painted in oils upon canvas and represented three Jack Tars firing a gun from a battleship. The "charge" consisted of the Coal Tar Soap, which is seen dispersing the germs of typhoid, measles, smallpox, scarlatina, etc.

In fig. 3 the Coal Tar Soap boxes were built in the form of a large castle, with the Union Jack floating on the top. This was a war window—a soldier (doll dressed in khaki) stood in the doorway of the castle, while over the arch one of Wright's own advertisements was worked in:

Sister Susie's sending Soap to Soldiers. Of course she sends the "Wright" Soap.

Four original showcards accompanied this display, which particularly attracted attention. We had for months been exhibiting Press Association war telegrams in the window, so a "bogus" one was worked into the display, which read:

LATEST WAR NEWS.

Whilst our Allies are helping us to gain a victory over the Germans, Wright's Coal Tar Soap has gained a decided victory over the germs; the trenches of infection having been taken by the Coal Tar Battalion commanded by Captain Wright, upon whose approach the enemy (measles, smallpox, scarlatina) retreated in general disorder.—P.A.

Another showcard represented a British Tommy saluting a tablet of Coal Tar Soap, while underneath was printed "An Enemy of the Germans Salutes an Enemy of the Germs." These showcards were all done in pen and ink.

It may be asked, "Do window-shows increase the sales?" I can safely answer, "They do, very much indeed." In this district the sale of Wright's Coal Tar Soap is much above the average, due, in some measure, to the very frequent window-shows of it which we give.

Indian Turpentine.

THE enormous quantities of turpentine used within the British Empire must naturally make one wonder why we use so little "British turpentine." In this respect nothing could have been more opportune than the publication by the Government of India of an exhaustive study of *Pinus longifolia*, the Indian turpentine-tree, as the first volume of a silviculture series of the "Indian Forest Records." This valuable monograph extends to 126 pages, with numerous illustrations, and deals with the whole aspect of the tree and its possibilities, but does not deal with the chemistry of the oil itself. It may therefore be of interest to mention that Indian turpentine oil has the following average characters:

Specific gravity	...	...	...	0.874
Optical rotation	...	...	...	up to +2°
Refractive index	...	...	...	1.4740
Boiling-point	...	...	...	165°

About 80 per cent. of the oil distils below 180°.

There is no doubt that this oil is suitable for many uses to which American or European turpentine is put, and that by suitable preparation it could be rendered equal in every respect and for all purposes to any other variety of turpentine. The report under notice is by Mr. R. S. Troup, and covers all the ground that could well have been dealt with in regard to the silvicultural aspects of so important a tree. The area over which it has been approximately estimated the pine-forests extend is about 3,370 square miles, in 3,250 of which the tree grows more or less gregariously. But these areas do not include Sikkim, Bhutan, Nepal, Mandi, the Frontier States, and Afghanistan, so that the total area is probably much larger than that given above. The pine appears to flourish on quite a number of different geological formations. In the outer Himalaya and the Siwalik hills it occurs on tertiary sandstone, while in the valleys it is found on bare quartzite. It flourishes, too, on mica schist, gneiss, and limestone formations. Interesting and important considerations as to the factors which influence its distribution have been carefully dealt with, and are of obvious importance if the industry is to be made Imperial instead of local. Such factors are temperature, moisture, soil, and diseases. The question of gathering the product is one which has met with a good deal of careful consideration, but will evidently require much more experimental work if the best results are to be obtained. But in addition to the question of turpentine there is the fact that enormous quantities of the pine-needles are available, and it will be of interest to know to what extent these can be utilised for the preparation of a pine-needle oil, and what the properties of such an oil may be. Distillation in India has hitherto been very primitive in its character: to-day this vast country has the opportunity, with the best scientific advice, of developing into an essential-oil country which distils its own raw materials. But it is necessary that the latest scientific methods for the production of the highest-grade products should be employed. There seems to us no reason why Indian turpentine should not rank as a staple production of the country, and one which should be freely used in Britain in place of foreign-made oil.

COLOR-SENSITISING DYES as used by photographic-plate manufacturers were formerly obtained solely from Germany. These dyes are now being produced by the Cooper Laboratory for Economic Research, Watford, equal in every respect to the German product.

Overseas Trade of the Indian Empire and British South Africa.

The Business that Germany was doing and how it grew before War was declared.

BRITISH INDIA.

THE overseas trade of the Indian Empire possesses exceptional interest for the readers of this journal. Not only is India one of the most important parts of the British Empire, but its vast expanse and the variety of its products and resources add to its importance. There is hardly one of the principal agricultural staples of the world which is not or may not be produced in India, and the capacity of Europe to consume is, or may become, as large as that of India to produce. Anybody familiar with commerce knows that Germany previous to the war exploited our great Dependency to the uttermost, her aim being to obtain control of much of the native produce which is garnered in such abundance there. By converting these raw materials into the finished products by means of cheap labour, bounties, and low freights, Germany had been able to compete successfully with us in the European and other markets. Germany bought in or from India during the year ended March 31, 1914, 17½ million pounds' worth of raw produce, or five millions more than in 1909-10, an advance of a million sterling per annum. In return Germany sent to India during the period manufactured products valued at almost 8½ millions sterling, or just double the figure of five years before. This business came to a standstill on August 4, 1914, and while the United Kingdom and our Allies can easily supply India's wants in the way of manufactured goods, India herself has to find fresh markets for the raw produce. The largest items of import by Germany in 1913-14 were jute, 4,500,000*l.* (which is double the 1909-10 amount); raw cotton, four millions (2.8 millions in 1909-10); hides and skins, 2.1 millions sterling; and rice, two millions sterling. Business in Indian oilseeds was particularly important, as may be judged by the following analysis:

I.—Indian Produce Exported to Germany.

	1910-11	1911-12	1912-13	1913-14
Dyeing and tanning substances (chiefly myrabolans) cwt.	322,546	250,620	243,502	301,073
Lac cwt.	85,280	102,313	73,213	52,764
Oils gals.	761,767	692,904	1,149,508	1,351,042
Oilcake cwt.	293,420	548,914	501,563	379,185
Seeds:				
Castor	150,202	73,683	110,443	195,228
Copra	348,556	473,292	548,331	479,797
Ground-nuts	137,992	196,781	90,063	188,724
Linseed	546,124	803,199	663,410	996,526
Mowra	261,196	559,982	187,054	567,670
Poppy	71,294	91,170	47,949	66,166
Rape	1,859,861	811,919	1,094,247	1,163,973
Gingelly	190,002	212,210	171,819	330,208
Other seeds	127,396	75,950	60,682	94,624
Spices lb.	2,020,062	3,093,427	2,198,654	3,897,375

The total exports of Indian produce to Germany increased in value from 12,002,479*l.* in 1909-10 to 17,570,514*l.* in 1913-14. We give the figures for the same kinds of goods in Table II.

The total exports of such produce to the United Kingdom were valued at 32,283,119*l.* in 1909-10; the value had gone up to 40,433,623*l.* in 1912-13 and fell to 38,236,780*l.* in 1913-14. Austria-Hungary was also a large importer of Indian produce; the value was 4,317,197*l.* in 1909-10, it increased to 5,046,924*l.* in 1911-12 and to 6,649,886*l.* in 1913-14. The enormously increased buying by Germany and Austria-Hungary in 1913-14 points to the preparation for war that both countries were making. Coming now to the general trade of India for the year ended March 31, 1914, we find the imports of merchandise from the United Kingdom alone were valued at seventy-eight millions sterling and from British Possessions and Colonies at about seven millions, or a total of over eighty-five millions out of a total aggregate from all

countries of 122 millions sterling. From all other countries the total imports were valued at thirty-seven millions

II.—Exported to the United Kingdom.

	1910-11	1911-12	1912-13	1913-14
Saltpetre cwt.	61,004	46,590	47,217	49,280
Dyeing and tanning substances:				
Cutch cwt.	54,142	50,068	43,544	33,599
Indigo	2,982	6,229	1,510	3,352
Myrabolans	681,112	486,829	686,980	504,001
Other sorts	16,855	21,177	24,387	15,821
Lac	110,323	89,986	102,043	97,769
Manures tons	14,425	13,673	16,824	15,017
Oils gals.	2,707,073	8,334,237	16,279,354	15,702,724
Oilcake cwt.	627,585	740,187	933,805	1,205,594
Paraffin wax	95,474	59,350	78,137	84,860
Rubber	2,414	5,199	9,473	15,346
Seeds:				
Castor	1,114,951	1,109,255	1,022,399	1,113,502
Cotton	5,803,091	3,975,412	2,556,358	5,583,965
Ground-nuts	10,192	543	1,302	9,603
Linseed	2,677,736	3,098,610	2,206,317	3,146,298
Rape	815,632	384,571	427,892	281,984
Other sorts	204,448	172,932	106,723	52,290
Spices lb.	3,234,046	4,109,202	3,359,689	4,211,443

sterling, and in many instances these imports were of articles necessary for India which are not produced largely in the British Empire. Among foreign countries Germany had the largest import trade with India, and the next tables show goods bought:

III.—Goods of German Origin Imported into India.

	1910-11	1911-12	1912-13	1913-14
	£	£	£	£
Chemicals	61,059	66,772	85,137	84,072
Drugs and medicines	28,357	38,488	38,861	69,802
Dyeing and tanning substances	600,978	549,110	680,295	621,910
Oils (chiefly mineral)	117,996	111,086	186,019	215,501
Paints, colours, etc.	40,328	38,195	36,389	35,413
Starch and farina	—	—	44,862	34,911
Total imports	5,596,424	5,968,844	6,868,933	8,443,862

IV.—Imports into India from the British Empire.

	1910-11	1911-12	1912-13	1913-14
	£	£	£	£
Spices	991,971	995,199	1,043,466	1,123,406
Gums, resins	71,960	101,113	104,193	100,755
Oils	483,042	357,567	362,682	388,177
Seeds	23,684	20,061	15,562	17,979
Chemicals, drugs and medicines	943,610	988,622	989,764	1,071,274
Dyes and colours	446,217	480,600	550,363	552,779

Chemicals, drugs, and medicines in 1913-14 were a composite lot, but 90,000*l.* better than in the year before. Of drugs and medicines Germany sent practically 70,000*l.* worth in 1913-14, compared with 38,861*l.* in 1912-13, which shows how well the market was exploited. In Table V. we indicate the extent of Germany's trade in 1913-14 compared with that of the United Kingdom. The figures in that table are taken from Tables relating to the Trade of British India with the British Empire and Foreign Countries. In several instances where the imports are not shown from Germany they are included with "other countries," and it looks as if the classification needs overhauling—e.g., it would be interesting to know what the imports of medicinal spirits from Germany were. We note Britain had two-thirds of the trade. On the surface the figures do not show that Germany had any predominance in the supply of drugs and pharmaceutical preparations, but only those who have an intimate knowledge of the importations to India from Germany

know what the weak spots were. Almost all the imports of bleaching-materials were obtained from the United

V.—British and German Exports to India.

	Total Imports	From U.K.	From Germany
Chemicals and chemical preps.:			
Acid, nitric ... cwt.	4,868	4,499	—
„ sulphuric ... „	63,938	63,687	—
„ other ... „	9,629	6,709	1,786
Aluminous sulphates ... „	90,079	77,014	—
Ammonia and salts ... „	13,340	12,985	—
Bleaching-material ... „	75,628	58,062	—
Calcium carbide ... „	19,998	—	10,901
Copperas ... „	14,490	14,489	—
Disinfectants ... „	25,395	23,815	—
Potash cyanide ... „	5,279	5,239	—
Other potash comp. ... „	14,560	3,318	3,225
Soda bicarb. ... „	86,413	86,353	—
Borax ... „	5,255	4,825	—
Caustic soda ... „	98,197	91,018	—
Soda carb., ash, etc. ... „	423,140	422,720	—
Other soda comp. ... „	49,957	27,958	8,788
Sulphur ... „	126,541	—	—
Other chemicals ... £	676,506	101,962	51,094
Drugs and medicines:			
Aloes ... cwt.	1,632	—	—
Asafetida ... „	5,817	—	—
Camphor ... lb.	1,363,237	—	—
Cassia lig. ... cwt.	46,470	—	—
Cocaine ... oz.	1,456	—	—
Proprietary med. ... £	176,021	125,683	15,855
Quinine (incl. bark) ... lb.	117,082	75,936	25,700
Sarsaparilla and preps. ... £	2,566	—	—
Storax ... lb.	78,430	—	—
Other drugs and med. ... £	301,738	202,950	30,719
Cochineal ... cwt.	1,665	—	—
Coal-tar dyes:			
Alizarine ... lb.	6,469,739	963,698	4,637,450
Aniline ... „	9,703,122	99,067	7,553,830
Other coal-tar dyes ... „	73,034	—	—
Indigo, syn. ... cwt.	6,051	—	5,378
Saffron ... lb.	59,314	—	—
Other dyes ... cwt.	26,945	—	—
Soda-water bots. ... gross	34,888	33,922	—
Gum acacia ... cwt.	8,025	—	—
Benzoine ... „	14,180	—	—
Olibanum ... „	38,287	—	—
Rosin ... „	44,788	—	—
Other gums and resins ... „	34,258	—	—
Optical instruments ... £	46,912	23,102	—
Photographic apparatus ... £	81,089	74,927	—
Surgical instruments ... £	81,105	63,316	7,654
Lac, stick and seed ... cwt.	13,318	—	—
Lac, other ... „	13,457	—	—
Spirits, medicinal ... gals.	128,863	95,046	—
„ perfumed ... „	21,918	10,807	5,325
„ methylated ... „	276,614	—	—
Quicksilver ... lb.	205,729	167,443	—
Oils, animal ... gals.	972,062	859,923	—
„ essential ... „	14,737	2,074	3,355
„ linseed ... „	439,482	438,313	—
Opium ... lb.	425	—	—
Turpentine ... cwt.	16,050	13,485	—
Perfumery ... £	33,471	—	—
Oilseeds, essent. ... cwt.	19,749	—	—
Soap, household ... „	301,369	300,215	—
„ toilet ... „	45,339	36,326	—
„ other ... „	16,152	14,162	—
Spices ... lb.	142,778,101	—	—
Starch and farina ... cwt.	101,967	20,670	52,469
Saccharin ... lb.	43,045	—	—
Toilet-requisites ... £	146,882	71,847	20,245

Kingdom, as also were the imports of borax, caustic soda, soda ash, bicarbonate, and some others.

VI.—India's Imports of Proprietary Medicines.

	1910-11	1911-12	1912-13	1913-14
	£	£	£	£
United Kingdom ...	141,680	141,449	125,276	125,683
France ...	8,182	9,363	5,427	9,238
Germany ...	1,930	4,528	2,665	15,531
U.S.A. ...	15,336	13,028	15,582	15,855
Japan ...	53	2,269	2,982	6,953
Other countries ...	1,580	2,110	1,372	2,761
	168,761	172,747	153,304	176,021

The total imports of these medicines were valued at 125,660*l.* in 1907-8, and it will be seen that we held our own. The average imports of mineral dyes during the five years ended 1913-14 were approximately valued at

670,000*l.* German makers who had their branches in India did most of the business, their share being about 70 per cent. The United Kingdom supplied 12 per cent., Belgium 9 per cent., and Switzerland 7 per cent.

VII.—Essential Oils Imported by India.

	1910-11	1911-12	1912-13	1913-14
	£	£	£	£
United Kingdom ...	8,248	7,583	8,243	9,538
Germany ...	7,800	9,424	11,824	15,989
France ...	—	—	6,395	6,149
Other countries ...	8,780	10,663	7,684	7,419
	24,828	27,670	34,146	39,095

These figures have special interest. India is a seller as well as a buyer, and for that reason the leading German essential-oil distillers had branches in India, and they were well able to grapple with competition. Nevertheless, the United Kingdom's exports increased by 25 per cent. in a quinquennium. "Toilet-requisites" have an enormous sale in India (146,882*l.* worth in 1913-14), but they must be cheap and attractive.

BRITISH SOUTH AFRICA.

In this article we deal with the import and export trade in the South African part of the British Empire in 1913 and 1914, the latter an abnormal year compared with 1913, so we divide the imports into two periods, (1) January to August, (2) September to December. The exports are similarly divided, being (1) January to July and (2) August to December. The reason for this is that as far as imports are concerned the effects of the war were not felt in South Africa until the end of August. The declaration of war immediately affected exports, the monthly statistics showing that the August figures dropped enormously. The totals for these periods are as follows:

Imports.			
		1913	1914
		£	£
January to August ...	...	25,234,860	22,737,538
September to December ...	...	13,291,521	8,585,052
Total for the year ...	...	38,526,381	31,322,590
Exports.			
		1913	1914
		£	£
January to July ...	...	39,769,021	34,350,783
August to December ...	...	25,345,613	19,144,293
Total for the year ...	...	65,114,634	53,495,076

The figures show that South African trade was subnormal when the war commenced, and this was attributed to drought, slump in the ostrich-feather industry, and industrial strikes. But war depression was of short duration, for the last quarter of the year shows a marked change in the statistics and a return of confidence on the part of merchants and others. The wool, ostrich-feather, and diamond businesses suffered severely, but the gold industry, which forms 60 per cent. of the exports, proved the salvation of the Union at a critical period, and the production has continued on normal lines.

In considering the extent to which overseas countries shared in the import trade of the Union, we recall that 1914 was a wholly abnormal year, and cannot be taken as a true guide. Put briefly, the position is as follows:

Imports from	1913		1914	
	£	Per cent.	£	Per cent.
United Kingdom ...	20,990,686	54.60	17,740,163	56.92
United States ..	3,668,104	9.55	3,009,497	9.66
Germany ...	3,403,441	8.86	2,194,529	7.04

It will be seen that the proportion from the United Kingdom advanced from 54.60 per cent. in 1913 to 56.92 per cent. in 1914. British Possessions as a whole advanced from 11.97 per cent. to 12.37 per cent., while foreign countries dropped 2.72 per cent., out of which Germany lost 1.82 per cent., or over 1,200,000%. This is about 35.50 per cent. of her trade during 1913, which amounted to 3,425,120%. We select a few of the biggest items that South Africa obtained from Germany, and compare with the amounts obtained from the U.K. and U.S.A.:

I.—South African Imports.

	1913		1914	
	Germany	U.K.	U.S.A.	Germany
	£	£	£	£
Sodium cyanide ...	245,383	148,026	—	152,058
Collodion, etc. ...	15,297	45,309	—	13,392
Drugs and chemicals ...	26,772	64,713	5,616	15,204
Apoth. wares ...	23,641	106,524	8,942	20,240
Glass bottles and jars ...	34,286	58,867	7,954	16,119
Glycerin ...	26,035	210,979	—	37,603
Malt ...	19,498	64,919	—	8,410
Potash salts ...	13,094	1,126	—	4,608
Superphosphates ...	19,514	7,731	—	9,300
Condensed milk ...	13,510	355,870	9,000	8,330

A true comparison of trading during 1913 and 1914 is given in Table II., which is confined to articles of drug-trade interest:

II.—South African Imports.

	Jan. to Aug.		Sept. to Dec.	
	1913	1914	1913	1914
	£	£	£	£
Assay apparatus ...	16,129	10,714	5,740	5,223
Apothecaries' wares ...	99,070	112,021	53,891	36,346
Calcium carbide ...	29,597	30,575	17,118	22,043
Cyanides ...	261,222	231,561	135,592	142,756
Disinfectants ...	28,307	32,325	14,965	14,230
Medicinal preparations ...	83,683	78,851	40,272	26,720
Other drugs and chems. ...	142,062	112,590	58,812	46,101
Dyes and tanning substances ...	5,143	3,933	2,720	1,786
Aerated waters ...	9,055	5,833	5,011	1,777
Baking-powder ...	32,569	30,828	14,192	16,212
Flavouring-extracts ...	13,473	12,263	8,073	7,016
Fruit juices and cordials ...	10,328	9,659	7,428	5,715
Salad oils ...	33,252	39,765	11,875	17,020
Spices ...	18,643	16,045	11,538	8,500
Vinegar and essence ...	7,625	8,457	3,391	2,411
Glass bottles and jars ...	75,313	58,054	69,875	44,658
Glycerin ...	376,825	312,141	186,189	119,571
Nitrates ...	132,426	109,260	103,558	111,251
Blackening and boot-polish ...	31,826	36,148	15,668	13,380
Other oilmen's stores ...	56,513	55,669	33,570	23,609
Castor oil ...	13,225	10,670	6,553	5,335
Coconut oil ...	22,572	9,498	12,625	7,665
Non-edible cotton oil ...	25,989	10,843	8,830	9,595
Essent. and perf. oils ...	15,354	15,157	7,753	3,077
Linseed oil ...	30,089	31,150	13,316	7,857
Turpentine ...	11,654	11,217	4,839	3,507
Varnish ...	22,105	16,375	9,485	5,722
Other paints, etc. ...	107,203	101,424	55,048	32,501
Perfumed spirits ...	14,200	14,242	9,099	3,019
Perfumery and toilet-preparations ...	44,265	47,879	21,571	16,118
Photographic goods ...	31,987	34,157	22,791	15,196
Quicksilver ...	17,258	15,130	6,754	12,573
Sheep and cattle dip ...	73,277	35,638	34,595	8,593
Common soaps ...	41,078	31,853	15,088	7,080
Toilet soaps, extract, and powder ...	26,755	26,399	11,366	7,937
Inks (all kinds) ...	12,389	13,881	6,170	5,749
Sulphur ...	39,411	15,729	38,975	4,247
Surgical and dental apparatus ...	24,360	22,004	14,670	15,686
Tallow and stearin grease ...	62,624	66,506	47,111	22,031
Paraffin wax ...	165,985	117,312	136,677	41,813

From the ninth Annual Statement of Trade we select the quantities of the principal pharmaceutical and allied products for 1913 and 1914:

III.—Imports of Pharmaceutical Products.

	From U.K.		From Germany	
	1913	1914	1913	1914
Acid, tannic ... lb.	224	—	384	839
Apothecary ware ... £	106,524	106,024	23,641	20,240
Borax ... lb.	823,004	765,919	2,846	13,784
Bromine, litharge & mangas. dioxide lb.	509,856	472,647	67,729	70,820
Carbonate of ammon. lb.	39,833	36,894	5,174	—
Carb. acid gas ... £	96	244	1,548	925
Chlor. of lime ... lb.	1,170,979	944,741	30,409	9,564
Cyanide potash ... "	20,471	21,434	17,024	14,740
Disinfectants ... £	39,162	43,864	2,150	1,652
Magnes. sulph. ... lb.	460,525	456,286	49,211	60,915
Medicinal preps., spirituous ... gals.	5,212	4,001	655	413
Do. non-spirituous ... "	75,436	69,738	3,905	2,630
Opium ... lb.	106	58	29	14
Tinctures ... gals.	195	74	60	30
All other drugs and chems. n.o.d. ... £	64,713	47,982	26,772	15,204
Aerated waters ... £	11,941	6,330	1,111	880
Extracts & essences (food) £	22,911	24,819	209	174
Extracts, flavouring, spirituous ... gals.	8,038	6,907	121	78
Do. non-spirituous ... £	1,881	1,621	111	61
Fruit juices and cordials £	12,466	9,362	433	269
Cloves ... lb.	864	869	—	170
Ginger (dry) ... "	61,481	46,641	281	662
Nutmegs and mace ... "	3,515	3,167	—	27
Pepper ... "	241,238	218,632	390	89
Turmeric ... "	8,844	6,528	—	—
Spices, all other ... "	51,022	36,764	358	1,464
Glucose ... "	82,852	117,756	1,699	3,476
Tartaric acid ... "	36,599	37,723	51,515	43,923
Cream of tartar ... "	36,742	28,981	51,862	38,778
Glycerin ... cwt.	60,310	63,312	8,007	9,729
Oil, castor ... gals.	45,350	40,598	135	66
" coconut ... "	53,594	5,603	50	12
" colza ... "	14,071	4,263	243	534
" cottonseed ... "	179,135	113,931	—	—
" essent. & perf. ... £	3,703	4,155	1,042	725
" linseed ... gals.	418,179	372,856	125	250
" palm & p. kern. ... "	100	—	7,618	1,360
" other veget. ... "	10,422	6,428	956	3,388
" turpentine ... "	3,688	2,085	3	—
Perfumery ... £	32,408	30,797	3,616	2,647
Perfumed spirits ... £	11,364	9,516	7,450	5,390
Photographic materials £	30,391	27,225	5,780	3,168
Sheep-dip ... £	76,318	39,505	6,845	764
Soap, toilet ... lb.	628,091	528,360	30,333	37,182
Surgical and dental appliances ... £	30,194	29,071	3,548	2,348

South African trade in drugs, chemicals, and apothecaries' wares amounted in 1914 to 569,238%, or 60,844%. less than in 1913. This decrease is made up of drugs and chemicals generally 56,477%, optical and other instruments 2,355%, and surgical and dental appliances 1,340%. Included in the item "drugs and chemicals" are two increases—viz., calcium carbide (5,903% increase), disinfectants and germicides (3,283% increase). It also includes apothecaries' wares, in which there was a decrease of 4,594%, although up to the end of August this item had increased by 12,951%, compared with the value of the imports during the first eight months of 1913. Other imports included in this general subdivision, in which heavy decreases for the year were recorded, are medicinal preparations (decrease 18,384%), caustic soda (decrease 8,020%), and potash compounds (decrease 3,861%). It may safely be said that South Africa's trade in drugs and chemicals is chiefly in British hands, and we do about two-thirds of the business. The United Kingdom supplies nearly all the acetic, nitric, sulphuric, and tannic acids, carbonate of ammonia, arsenic, quicksilver, saltpetre, borax, caustic and other soda, bleaching-powder, disinfectants, and germicides; about four-fifths of the sheep-dip, three-fourths of the drugs and chemicals, and three-fifths of the medicinal preparations. Germany is the second important contributor to this market, and previous to the war was going ahead, especially in the supply of apothecaries' ware (United Kingdom, 1912, 113,000%; 1913, 106,524%; Germany, 1912, 19,854%; 1913, 23,641%) and the supply of miscellaneous drugs and chemicals.

India as a Drug-producer.

THE richness of India in official and non-official drugs was spoken of by Dr. David Hooper in his presidential address to the British Pharmaceutical Conference. This, he said, is a benefit we have enjoyed from the time when our ancestors sailed to the East to bring "spices, precious stones, and drugges for the Potteries." The fragrant gum-resins of former times, myrrh and frankincense, are still sorted, stored, and sold from the godowns of Bombay. Senna-leaves are gathered from the irrigated lands of Tinnevely and exported in the autumn from Tuticorin. The deciduous forests of the Eastern and Western coasts yield nuxvomica more than sufficient to meet all demands, yet strychnine is advancing in price. Sandalwood is a forest-product of intrinsic value to the State of Mysore, but most of the wood has been exported to Europe to be distilled for its oil. During the past few months a factory has been erected near the Indian Institute of Science, Bangalore, for distilling the wood on scientific principles. The establishment will cost a large sum, but it is anticipated that the commercial value of the oil, equal in quality to that obtained in Europe, will justify the expense of the undertaking. The hills of Travancore and Cochin yield abundance of lemongrass, from which the essential oil is distilled; while the uplands of Nimar are still celebrated for their geranium and gingergrass oils. Thymol is now produced on a commercial scale from oil of ajowan-seed. The oil of gaultheria, a plant growing in abundance on the Nilgiris, consists of methyl salicylate, a product much in demand.

Among fixed oils, croton and castor have long been peculiar to the East Indies; the latter is exported in large quantities, and is one of the few oils most suitable for lubricating aeroplanes. Gurjun oil and chaulmoogra-seeds are forest-products of Burmah and the partially explored Chittagong Hill tracts. Of oils and oilseeds India has an abundant supply, overflowing in exports of seeds alone at the rate of a million tons a year. Linseed, rape, groundnut, sesame, cotton, mowra, and poppy are the chief sources, but innumerable oils are obtained from all sorts and conditions of plants, from the stately coconut palm growing on the coasts to the perilla or hyssop that grows on the wall.

Opium has ceased to be exported to China, and is available for legitimate and medicinal use in place of the drug imported from Turkish sources. The composition differs from that of official opium in the lower proportion of morphine and the high content of narcotine. Notwithstanding these minor defects, we are informed by the Imperial Institute that Indian opium is now being used for the manufacture of morphine and codeine, and some varieties have a fair alkaloidal value rendering them suitable for the preparation of galenicals.

For many years attempts have been made by the Forest Department to bring into the market the products of the extensive forests of Chil pine (*Pinus longifolia*) in the Himalayas. Distilleries at Dehra Dun and beyond Naini Tal have attracted a limited trade, but the erection of a new and enlarged factory in the Punjab, with all the more modern improvements, is likely to eclipse all former experiments. The first season's working has yielded very fine grades both of turpentine and rosin, and there is little doubt that, with the other factories, India will be able to supply the greater part of her own markets with these products.

A few years ago Dr. Hooper showed that half the vegetable drugs of the Pharmacopœia are indigenous to India, and most of the remainder can be cultivated there. India, with its varied climate, elevation, and soil, has been found by experiment to be most suitable for the cultivation of cinchona, digitalis, belladonna, henbane, jalap, saffron, and coca equal in activity to the same drugs grown in their respective habitats. Fifty years ago the experiment of growing cinchona was being watched by scientists with the utmost interest. Young plants were tended with the greatest care, and the progress of their growth and the analysis of the bark formed subjects of numerous despatches to the Secretary of State. On comparing the early struggles of the industry with the present position we know that there are thousands of acres of cinchona now growing near Darjeeling in Northern India and in the Nilgiri Hills in Southern India. Since the establishment of factories on these sites in 1888 and 1889 quinine sulphate has regularly been made. The combined output of the two factories last year amounted to 1,280,000 oz. of sulphate of quinine. This is a grand result in acclimatisation, and a tribute to the energy and foresight of Sir Clements Markham, who pioneered the industry, and whose death we have lately

been called upon to mourn. This amount of quinine, however, does not meet the demand of local consumption, and since it is still the foremost remedy for malaria, and the best substitute for synthetic pyretics, the Government of India should not be satisfied until the country is independent of outside supplies.

Turning to mineral substances, it is satisfactory to know that biological conditions for the formation of nitrous earth are not more favourable in any part of the world than they are in the valley of the Ganges. It is not in many regions that a source of potash and nitric acid is as common as the dust under one's feet, but here for generations saltpetre has been separated and refined on a large scale. It has long been used as an ingredient in black gunpowder, and is now required to a greater extent in the manufacture of high explosives.

For over twenty years India has exported large quantities of manganese ore, and at the present time she ranks next to Russia as the greatest producer of the world. Steelworkers of Britain and the Allies have therefore abundance of ferro-manganese for their factories without having to depend on foreign supplies. This is a factor of no mean significance in the matter of supply of war material. A few years ago attempts were made to develop the wolfram or tungsten deposits of the Indian Empire, with the result that Lower Burmah now heads the list as the world's largest producer. Formerly most of the wolfram was exported to Germany, but now English smelters have overcome the difficulties in handling this metal, and are in a position to cope with any quantity that may be exported to them.

The manufacture of munitions in India is proceeding briskly. The output is steadily increasing; many shipments have already been made, and the development of existing factories is receiving the diligent attention of Government. Since the commencement of the war Government has taken steps to assist local industries, among them being glassworks, the manufacture of Epsom salt and bichromate of potash, and oil-pressing. It will be admitted that India is not only at present an important unit in, and an active partner of, the Empire, but that there are latent industries capable of great development in the future.

The drugs of India have for many years been an attractive field for chemical research, and during the past year, notwithstanding the circumstances of the times, some advance has been made in our knowledge of the composition of a few. Messrs. Clewer, Green, and Tutin have discovered that the dreaded and poisonous root of *Gloriosa superba* owes its properties to colchicine. Mr. J. H. Barnes has investigated Indian henbane (*Hyoscyamus muticus*) from the Punjab, and confirms the high yield (nearly 1 per cent.) of mydriatic alkaloids that had previously been found in plants growing in Sind and Egypt. These alkaloids are becoming very valuable, and fresh sources are urgently required. Mr. Barnes has also examined the fixed oil of the poli plant (*Carthamus Oxyacantha*), a wild, prickly shrub growing about Peshawar. The oil has been technically in use in ornamenting Afride wax-cloth, and has lately appeared as an adulterant or substitute of ghee or clarified butter. The drug called "Mudar" or "Ak" (*Calotropis gigantea*), examined by Dr. Warden in 1885, has again been examined by Messrs. E. G. Hill and A. K. Sirkar, resulting in the isolation of a new alcohol, mudaric acid. A test for hashish (*Cannabis sativa*) has long been needed, and Dr. Beam, of Khartoum, claims to have discovered one of great delicacy. It consists of a solution of hydrogen chloride in alcohol added to a petroleum-ether extract of hemp, when a cherry-red colour is produced. The intravenous injection of chaulmoogra oil for leprosy has, in the hands of Sir Leonard Rogers, of Calcutta, met with encouraging results.

Since 1895 there has existed in Calcutta an Indigenous Drugs Committee. Its functions have been to select certain drugs for experiment, arrange for suitable preparations being made at the medical stores, distribute these to co-adjuvators for clinical trial in various hospitals and dispensaries throughout the country, and receive and tabulate the reports. About thirty drugs have been experimented with, and in most cases a definite opinion has been formed of their value. Though this has been a somewhat slow and unwieldy agency, the detailed reports have been of great service. The Committee, however, have come to the conclusion that the system of issuing drugs for experiment and report is not a good one, as such work should only be entrusted to and can only be scientifically carried out by men specially qualified in research-work. With the establishment of the School for Tropical Medicine in Calcutta, it has been proposed that a Chair in Pharmacology, with appropriate laboratories, should be created; here scientific and therapeutic results would be obtained that would justify the expense attached to the post.

The Trend in Beverages.

THE new duty on table-waters has increased the price of these beverages and has set the public thinking of what duty-free thirst-quenching liquids they can avail themselves. This only seems to apply in cases where aerated drinks are employed as a luxury; in those instances where potash, soda, and seltzer waters are used for their medicinal effect the public has for the present accepted the new prices with the acquiescence that all war-taxes require. It looks as though there will be a revival in some of the older beverages upon which no tax is levied. The weather so far this season has acted as a natural check on the sale of beverages, and it may be remarked that the increase in the price of tartaric and citric acids may involve modifications in formulæ, as it will most certainly in the retail prices. Many people are reverting to barley-water, regarding the manufacture of which the *C. & D.*, April 24, 1915, p. 110, gave full information. It is probable that the demand will be stimulated for ginger-beer powders, of which two varieties are recognised in the trade. The following is the type which supplies the ingredients and leaves it to the customer to brew the ginger-beer:

Crushed ginger	...	...	2½ lb.
Cream of tartar	...	...	13½ oz.
Tartaric acid	...	...	4½ oz.
Lemon oil	...	...	½ oz.

Rub the lemon oil with part of the cream of tartar, then mix with the other ingredients. This is put up in packets containing 1½ oz., which is the quantity for a gallon of ginger-beer. The label should direct the boiling water to be added to the powder, together with from 12 oz. to 1 lb. of sugar, and when lukewarm 2 oz. of yeast is to be added, floating on a piece of toast. After fermenting for four days the ginger-beer is ready for bottling.

It is obvious that the lemon oil will soon become terebinthinous after it has been distributed over the other ingredients of the ginger-beer powder and stored for some time. For this reason some chemists supply separately the lemon oil diluted with tincture of turmeric in a small bottle, the bottle being placed among the powder. This method answers better where the powder is made bulkier by mixing it with the sugar and selling all the ingredients, except the yeast, that are needed for the manufacture of the ginger-beer. In this case the lemon oil need not be added until the brewed liquor is lukewarm: the directions should state this.

EFFERVESCING GINGER-BEER POWDERS.

In cases where a ginger-beer requires to be made extemporaneously, the old form of powders put up in the style of seidlitz powders may be offered. The recipe for these is as follows:

Powdered sugar	...	...	1½ lb.
Finely powdered ginger	...	...	1½ oz.
Bicarbonate of soda	...	...	4 oz.
Oil of lemon	...	...	10 drops

Mix well. Weigh 3ij. of this for each blue paper. The white-paper powder consists of 3ss. p. acid. tart.

FRUIT-CRYSTALS

should also be in greater demand if the warm weather sets in. One disadvantage is that these require packing in bottles, and special glass packages are not now readily obtainable. The following formula was given in the *C. & D.* some years ago, and is good enough to repeat:

Lemon.

Tartaric acid (small crystals)	...	...	3 lb.
Granulated sugar	...	...	6 lb.
Oil of lemon	...	...	2 oz.
Rectified spirit	...	...	2 oz.
Quinoline yellow	...	...	a sufficiency

The flavouring and colouring are mixed with the granulated sugar, the acid then added, and the mixture dried before bottling. Two ounces of the crystals and 1 lb. of sugar added to a pint of water make a beverage-syrup.

Changes in the flavour—orange, raspberry, strawberry, cherry, and ginger—are made by using soluble essences in place of the oil of lemon. Details of the recipes will be found in "Pharmaceutical Formulas."

FRUIT-SYRUPS.

Some customers may prefer to purchase syrups ready-made. The following is a good lemon-syrup, which should

be labelled, "Specially devised for use as a beverage when diluted with water":

Lemon-syrup.

Soluble essence of lemon	...	...	13 pints
Soluble essence of limes	...	...	6 oz.
Lemon colouring	...	...	12 oz.
Caramel	...	...	10 drachms
Concentrated rose-water (1-40)	...	...	6 drachms
Citric-acid solution	...	...	3¼ gals.
Syrup	...	...	80 gals.

Mix and add the following solution:

Sodium phosphate	...	...	3½ oz.
Sodium acetate	...	...	3½ oz.
Salicylic acid	...	...	3½ oz.
Water to	...	...	35 oz.

Solution of citric acid for the above is made by dissolving 21 lb. of the acid in 3 gals. of boiling water.

Lemon colouring is a solution of lemon yellow 1 lb., golden caramel 24 lb., and water 2 gals., prepared by heat and filtered when cold.

Other syrups can be made on similar lines; another popular one is black-currant syrup, soluble essence of black currant being the flavouring agent, about 4 oz. to the gallon of syrup being required.

A good formula for lime-juice cordial was given in the *C. & D.*, April 22, p. 100. It is on the same lines as the lemon-syrup formula given above.

We have not attempted to affix the retail prices to any of the formulæ owing to the market variations in citrates and tartrates, but it will be seen that all the above are adapted for sale at popular prices.

Palmarosa Oil.

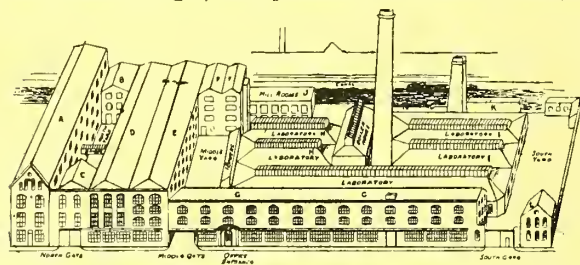
THE recent publication of the Indian Forestry Department on the economic uses of rosha-grass ("Indian Forest Records," vol. v., part vii.) forms an interesting and important contribution to the literature of the Indian grass oils. The main portion of the work is by Mr. R. S. Pearson, I.F.S., F.L.S., and is supplemented by a note on the chemical aspects of the oil, by Mr. Puran Singh, chemical adviser to the Forest Research Institute, Dehra Dun. It seems difficult to resist the popular view that this grass oil took the name "rose oil"—under which it is still imported and catalogued in Mincing Lane—from the vernacular *russha*, *rosha*, or *rohish*, all native names for the grass and oil. At the same time it should be mentioned that the geranium or rose type of odour may have been responsible for the name. The present publication is a useful summary of the characters, methods of cultivation and distillation, and economic uses of the grass, together with an accurate account of the properties of the oil. The work of Stapf is adhered to, and the grass is classified as *Cymbopogon Martini*; but the distinction between palmarosa oil and gingergrass oil does not receive quite lucid treatment. There is no doubt that the two varieties of *Cymbopogon Martini* exist. The motia-grass produces the palmarosa oil, and the sofia-grass the gingergrass oil. It is true that no great morphological differences in the plants have been recorded, but the enormous difference in the oils—which is constant—surely establishes the difference in the grasses, and they are clearly entitled to be described as different varieties. The reporter, however, on page 1 states the rosha-grass produces palmarosa oil, "while according to Watt the inferior classes are known as gingergrass oil." On page 2 he lapses into the error which one would hardly expect from a botanist, and refers to Brander's view and uses the words: "He states that the two *species* are divided by a sharp line, and that there must be some factor governing the occurrence of the two *varieties*." The italics are ours. On page 25, in referring to the work of Hole and of Burkill, the difference between the two is correctly set out. In the notes on the "constants" of the oil of the motia-grass (palmarosa oil) the facts are well and correctly given. But we should have welcomed a few words on the use of some other grass to mix with the distillation-material which yields an oil of high optical rotation. During the past six or nine months a fair amount of this adulterated oil has been found on the London market, and, as we are still in some uncertainty as to the origin of this adulterant, a few words on the question would have been welcomed.

GARDEN HINTS.—Potassium sulphide is the best remedy for the worst enemy of the pea-grower. Spray the plants with a solution of ½ oz. in a gallon of water. For slugs use soot, lime, and wood or pearl ashes. In place of soot, animal or bone charcoal can be employed with advantage if cheap.

A Quinquennial Record.

How The British Drug Houses, Ltd., have grown since the four constituent Houses merged into one.

IN THE CHEMIST AND DRUGGIST, January, 28, 1911, was published an illustrated article, entitled "The Home of 'Tetradome,'" which was a description of the Graham Street premises of The British Drug Houses, Ltd. The title had reference to the four Houses which were embraced in the company—viz., Barron, Harveys & Co., Davy, Hill & Hodgkinsons, Ltd. (Davy, Hill & Co. and Hodgkinsons, Clarke & Ward), and Hearon, Squire & Francis, Ltd. Four of the oldest and best-known businesses in London these were, and the amalgamation was the biggest that has happened in our drug-trade within the memory of living men. So the significance of the amalgamation and removal of the combined business from the south to the north side of the Guildhall was exceptional. Fortune has smiled on the directors, of whom Mr. Chas. A. Hill, B.Sc., F.I.C., President of the Drug Club and President of the British Pharmaceutical Conference, is chairman and managing director. Of his co-directors, Lieutenant-Colonel Ralph K. Harvey, of the East Surrey Regiment, has been serving in the East since the war began, and Messrs. Alan Francis, G. B. Francis, Roger M. Harvey, Alan Hicks, W. L. Howie, and W. A. H. Naylor are still assiduous workers in the home of "Tetradome." The fact that the company has recently purchased about three acres of ground on the opposite side of the City Road Basin of Regent's Canal is an open secret, and was the immediate object of another visit of inquiry and inspection, as it looked like one of the better effects of the war; but Mr. Hill put the matter plainly when he assured us that, although it may be taken as one effect of the war, and an anticipation of further development when that is over, business extension had been going on during the quinquennium, and a jump over the canal had become necessary. War-time is not the best for factory enlargement, and nobody, from the Government downwards, thinks of doing it if it can be avoided. Labour is scarce, materials are dear and difficult to get, and patience must be the principal



THE BRITISH DRUG HOUSES' GRAHAM STREET PREMISES.

A, Warehouses for dry drugs; B and C, connecting houses; D, warehouses for wets; E, packing and despatch premises; F, lower floors devoted to percolating and manufacture of spirituous preparations; top floor, analytical laboratory; G, ground floor, offices and directors' private rooms; upper floors, printing, manufacture of pills, tablets, lozenges, and bottle-storage; H, galenical laboratories; I, chemical laboratories; J, grinding-mills; K, furnace-house, for chemical processes; L, engineers' workshop and capsule-making.

constituent in the men who want them. A walk through the Graham Street premises of The British Drug Houses sufficed to show that many things had happened there since our 1911 visit. Practically every picture which illustrated our article then showed bits of floor-space that might take some more apparatus or stock, and now the space is filled up, thanks to business development. We may also recall that then the offices were almost destitute of women's labour except that a number of typists were placed at one side and the telephone-rooms were controlled by them. Before the war about twenty women were engaged in these capacities, but the company now employ women as invoice clerks and ledger clerks, also in the reference department (card-index system) and in other positions. In some cases these replace men who

have gone on military service. For these women the company have furnished a suite of retiring-rooms, consisting of the customary lavatory accommodation besides a kitchen, tea-room, and rest-room. They are on the south-east section of building G. Similar accommodation for the factory staff is also provided in building E further along Graham Street, these rooms being for double the number of women now engaged in actual production and finishing-off of goods. Altogether the company have liberated about 150 men for war service, and while they have employed as many men of non-military age, they have about 150 women more than before the war began.

There are also some new things which indicate quinquennial development. A costs department has been established in the office, which is under the control of two women pharmacists who are experienced computators, this qualification, along with pharmaceutical knowledge, being essential for the working of some 6,000 cards on which the costs are recorded. The company from the beginning has been strong on labour-saving appliances and business-expediting schemes. The latest thing in the latter is a new system of telephonage, for which the apparatus has come from the United States. It gives two hundred talking connections. The managing director has also in his own room the Turner Dictograph telephone system, which dispenses with the speaking-tube for the mouth and the ear-piece. This provides direct communication without any exchange; he simply touches the button, talks at his desk, and the reply to him comes from the listener, and though of subterranean sound it is perfectly distinct.

A walk through the pharmaceutical laboratories showed lines in which women are now employed, but growth of business was the principal note that came to the eyes. The pill department, for example, now shows marked expansion; automatic pill-making machinery has been installed, and the finishing and coating departments have been augmented by new mechanical appliances, such as gelatin coaters and sugar and chocolate coating apparatus. Associated with this department is a compressed-tablet factory, part of which has been working night and day since the war began in the production of tablets for which the Army has special demand, and we observed that in respect to one of these the B.D.H. wrap each tablet in vegetable parchment, this being done by a most ingenious machine folder. Inspection of the chemical laboratories also demonstrated that the floor-space has been much filled up during the past few years, partly on account of new articles being made, also on account of increased demand for certain products, as well as on account of special war demands. On this point we had an exceedingly interesting conversation with Mr. Hill. "Our policy in regard to the production of so-called German chemicals," he remarked, "has been to manufacture those articles which otherwise would be unobtainable. Hexamine was manufactured by us quite at the commencement of war, and discontinued later when it was found that supplies were readily forthcoming. Aspirin has been made by us regularly, and while the quantity hitherto has been limited by supplies of necessary reagents, the output is now being very considerably increased. Salicylic acid and sodium salicylate we have made regularly, and though the quantity here runs into a good many tons, it is limited by plant-capacity and difficulties of getting further plant made and delivered. The position has been, and still is, that any line manufactured is done at the expense of something else. It is a question of choosing, and the line of choice has been as stated. Labour is the greatest difficulty we have to contend with, and supplies of raw materials come next."

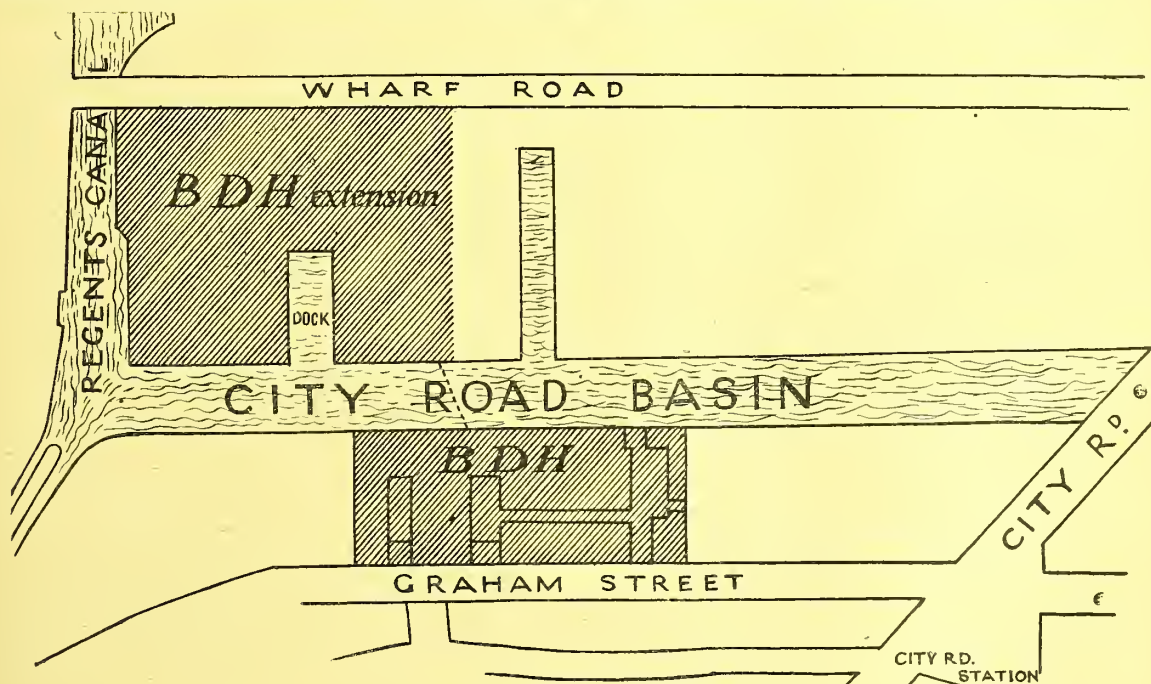
We examined specimens of some other products from the chemical laboratories, such as bismuth-tri-brom-phenol, pure anhydrous glucose, iron lactate, calcium and other lactates, pure barium sulphate, and calcium lactophosphate (all of which the B.D.H. had been making before the war), resorcin, methylene ditannin, migranine, pyrogallol monoacetate and triacetate, and physiologically pure salicylic acid which we compared with a specimen of Schering's and found it to be better crystals. They have for many years produced a large number of chemicals

in every-day demand; for example, heavy magnesium carbonate, for the production of which there is a special department, and the conditions are such that the carbonate is always of the same specific gravity—in fact, it is standardised in that respect, the result being that preparations made from it do not differ in density.

The company have since the war commenced found it necessary to embark upon the production of analytical reagents of approved purity; this is now an entirely separate department of the business, and is worked independently of the drug and pharmaceutical sections. The demand for B.D.H. reagents from the War Office and other Government Departments, research laboratories, and those of munition works throughout the country has necessitated the erection of new buildings especially equipped to meet this demand.

We may appropriately mention here the extension of the Graham Street premises by the acquisition of three acres of ground on the south side of the Regent's Canal Basin. A sketch plan of the region is given here; it suffices to show the situation of the extension. The premises now being erected there are intended for chemical-factories and chemical-manufacture first and foremost.

portion of the fresh plants was also in the process of drying, and it is interesting to mention that the drying process is one that hitherto we had not seen applied to fresh henbane, a special apparatus being provided for it. It is also used for drying digitalis-leaves. Curious to know whether or not the supplies of English-grown henbane are normal, we asked Mr. Hill some questions on that matter, and were assured that the B.D.H. have had no difficulty in obtaining normal supplies, and that fresh belladonna had also been contracted for and was delivered this month according to contract. This took us on to a conversation regarding war difficulties. Unquestionably labour has been the greatest difficulty of all, and Mr. Hill looks back with gratitude to the assistance given in the early days of the war by the National Health Insurance Commissioners. The wholesale drug-business, like other industrial pursuits, was subjected to the Army conditions that prevailed, but it has been a distinct advantage to have so well-informed a department as the N.H.I. Commission associated with the drug-trade. Dispensing chemists are aware what has been done for them, and it is right that we should put on record the tribute also paid by the President of the Drug Club.



GROUND PLAN OF THE B.D.H. SITUATION.

There are one large and four smaller buildings completed and in use, in addition to the boiler-house, chemical shaft, two cottages, and usual accessories. Another large building for pure chemicals is practically completed. The company are already manufacturing there, and last week were in the throes of moving certain manufactures from Graham Street to Wharf Road, getting further plant and machinery installed and in working order. In addition to chemical-manufacture, they garage their seven motor-vans at Wharf Road and have a workshop there for carrying out running repairs. They also take empties and wash bottles there, for which purpose they have erected a little railway across the private dock. A comparison of the B.D.H. space in Graham Street with the B.D.H. extension shows that the latter is a trifle larger. The two places are connected by a trolley-system in the air, in addition to regular services by water and by road.

On the day of our call last month several tons of fresh henbane had been delivered, and we had the pleasure of inspecting it, and it seemed a pity that such nice plants should have to go into the mills and be crushed for the preparation of succus and extract. A certain pro-

The supply of raw materials may be regarded as a difficulty second only to the supply of labour. This has chiefly been due to carriage or transport, which difficulties have affected all supplies owing to the necessity of ensuring that the Navy and Army get what they want promptly. After that the food-supplies of these islands are the next consideration. Nevertheless, Mr. Hill considers that the drug-trade has been very well served by the railways. Overseas transport has been backward, to put it mildly. In the development of business new plant has been very difficult to get, but there have been bright spots here and there; for example, we noticed a remarkably fine stock of basketware, such as hampers, in the proper place at the warehouse, and we learned that although the railways had paid little attention to empties for many months, all hampers and the like came back when labour and time permitted. The chief impressions that the visit gave us were that war work in such a business as The British Drug Houses means keeping up old supplies, meeting well-established requirements as well as those which war conditions have created, and anticipating the future by getting ready for it, as this article testifies.

Women in British Pharmacy.

A War-time Demonstration and Review.

"During the last few months women competent to engage in retail, wholesale, and laboratory work have largely taken the place of young men who have joined the ranks. Women have entered the colleges of pharmacy, and in some are forming 50 per cent. of the students; in the qualifying and honour examination they have achieved success, and this year in the School of Pharmacy they have carried off the chief prizes. Past students have taken up appointments in pharmacies and hospital dispensaries; they have become manageresses of stores, and a few have shown themselves capable of carrying out original research. Present conditions have given women an opportunity of which they are evidently availing themselves to the full. For physical and other reasons they are not fitted for employment in branches of chemistry where long hours are kept. They will probably not compete with proprietors or men of great business capacity, but, with their manipulative skill and educational ability, they have proved capable assistants and dispensers, and form serious rivals to qualified male pharmacists. Many of them have set out to learn pharmacy as a life-work, and after overcoming the difficulties of apprenticeship and strenuous years of training, they have passed their examinations and are giving satisfaction. Others have passed the Assistants' examination of the Apothecaries' Society and have received temporary appointments for the duration of the war."

WEEKS before Dr. David Hooper used these words in his presidential address to the British Pharmaceutical Conference, we had been interviewing several women who are pharmacists and in the business as business women. Then we did not dream that a varied significance would grow around this account of the interview.

Yet such there is, for part of this record relates to Henry Deane's pharmacy in Clapham. He was the first President of the British Pharmaceutical Conference, and Dr. Hooper the thirty-eighth. So we open with Henry Deane's portrait as he was in the early years of the Conference, when his dear friend H. B. Brady, of Newcastle, had been made the President. Strange that as we write the loss of Deane's assistant and Brady's partner—N. H. Martin, the twenty-first President of the Conference—comes as a great shock to many of us.



HENRY DEANE.

Reproduction from one of a group of portraits of Presidents of the Pharmaceutical Society of Great Britain, published by the C. & D. on the occasion of the Jubilee of the Society. The basis of it was a C. & D. lithographic portrait published in 1870 with Deane's biography.

Since the war began the place of women in pharmacy has become a surer thing, even in Austria and Germany, the most backward of places so far as pharmaceutical employment is concerned. In the early days of the war, when pharmacy in both countries had been almost depleted of men, little official sympathy was given in either country to women who tried to keep together the businesses of relatives. Yet Holland juts into Germany, and the position of women in pharmacy is nowhere in the world a surer thing than it is in Holland. American and British women pharmacists are almost a generation behind their Dutch sisters in business status, professional position, and public estimation.

The war has accentuated women's place in all occupations. We had a chat recently with Mr. Chown, one of

the partners of Roberts & Cie., pharmaciens, Rue de la Paix, Paris, about business conditions in France, and in a few graphio sentences he related how French women keep agoing the business of France. It is not possible to select one thing that they do more than another; they have taken to themselves that wise instruction of the Preacher:

"Whatsoever thy hand findeth to do, do it with thy might."

Perhaps the war may bring French women more into pharmacy. Few of them are *pharmaciennes*, but many, said Mr. Chown, are with us doing office-work and the other non-professional dexterities that English women also are doing now.

Everybody knows that pharmacy as an occupation for women has received much attention from our daily papers and women's weeklies. A great deal of it has been sheer nonsense, and neglectful of all the statutory conditions that apply to pharmacy as a trade; indeed, the majority of the articles that we refer to confounded analytical chemistry with the chemist and druggist's business, and this terrible confusion is a basic trouble to newspaper men and women, as well as to the poor girls who want to be professional, and begin with pharmacy, in which money is only made by exceptionally intelligent trading. Lack of this appreciation accounts for the fact that few women supposed to be in pharmacy have had training similar to that of men, so that when the war began to trouble us, and men from pharmacy, as from every other occupation, industrial and professional, have joined the Colours, the exceptionally great demand for women as dispensers and assistants in retail drug-shops has not been met by the supply. We gave some facts in a note in our issue of June 17, based upon information obtained from the Board of Trade Bureau which is looking after women's work, and it was to the effect that pharmacy's demand for women is quite subordinate to the demand for women workers in chemical-manufactures and allied occupations.

It was while such facts and thoughts as these were uppermost in our minds that we had a good chat with Miss Margaret E. Buchanan on the subject. It proved to her a soothing conversation, for Miss Buchanan has been more worried about the matter than any other woman in England, or may we say the British Empire? She comes of a Scotch family, and was educated at the North London Collegiate School for Girls, under Miss Buss and that distinguished Irishwoman Sophie Bryant, D.Sc. (Lond.). She entered pharmacy with the settled conviction that a mathematical training is one of the best things that can happen to man or woman, especially woman, who wants to make her own way in the world; for mathematics not only helps her to think for herself, but to form her own judgment—"Reasonable of course," Miss Buchanan assured us. We remember when she was at the Square and took certificates and medals, and a year later, on October 5, 1887 (Mr. Carteighe being in the chair), Miss Buchanan, as a pharmaceutical chemist, had gained the Society's silver medal, and the present President of the Society (Edmund White) took two bronze and three silver medals at the School. Our report of the opening of the session (Sir Dyce Duckworth being orator) contains the following remarks by Mr. Carteighe:

"The second in the competition was Miss Margaret Elizabeth Buchanan, who had gained 692 marks. From personal knowledge of the examination he was able to fully confirm the report of the examiners, who, of course, did not know the writers of the papers which they had to estimate, except by mottoes, on the substantial and steady work shown in this lady's papers. To her was awarded the Pharmaceutical Society's silver medal."

Since then Miss Buchanan has been practising as a pharmacist, and is at present Lecturer on Pharmacy at the School of Medicine for Women (Royal Free), Hunter

Street, W.C., but she manages to do a lot of other things in a quiet way, and is *the* woman among British pharmaceutical women, a guide, philosopher, and friend to many of them. She and Miss S. J. Heywood, Ph.C., teach pharmacy at Gordon Hall, Gordon Square, London, W.C. The course of training which they give is very



THE PAVEMENT, CLAPHAM COMMON.

From a photograph taken by Henry Deane. No. 17 is the central building, the house-door being at the right and the double-fronted shop at the left. The shop-front as it is to-day is shown in the next illustration.

thorough, for suitable students are enabled later to obtain business training at Henry Deane's pharmacy, of which more anon. In our chat with Miss Buchanan she remarked that unfortunately during the past few years many women have had no higher ideal of qualification than the Apothecaries' Assistants' certificate, and really no intention of going into business. The consequence is that at the present crisis, when women with the qualification provided by the Pharmacy Acts are really wanted, an insufficient number are forthcoming.

"How many women are on the Register of Chemists and Druggists?" we asked her.

"We and the Association of Women Pharmacists reckon that somewhere between 300 and 400 are on the Register. What employers want at present is women with business or shop experience who can handle every department of a business in the same way as a man does, but it is very difficult to get them." The immediate effect is that a comparatively small proportion of the women who go into pharmacy and obtain the Pharmacy Act qualification begin the business as apprentices in a shop. "This is what we have to get over," Miss Buchanan remarked. She also believes that a real essential in the business side of pharmacy is that the girls who come into it should be thoroughly well educated, because she is of opinion that this education, particularly mathematics, will make for the greater broad-mindedness that is necessary for pharmaceutical success in the examinations as well as in business. We asked if this had anything to do with the fact that the larger proportion of girls and women do not go further than the Apothecaries' Assistants' certificate. To this Miss Buchanan replied that there is a great drawback in retail pharmacy to many women. The hours are too long, and it is astonishing how many women who really want to work in a pharmacy break down in a short time because they have to work after eight o'clock at night. It will be necessary that pharmacists should think about this and adopt the hours applicable to women so that they may work, say, nine-tenths of the day that the male assistant puts in, the remuneration being adapted accordingly. Although at present registered women pharmacists are getting almost anything they like to ask in the way of wages, Miss Buchanan is perfectly sincere in recognising that this is only temporary, and although now is an

excellent opportunity for retail men appreciating the value of women as assistants, they must also recognise that the conditions of employment must be adjusted to suit women. Miss Buchanan is very strongly of opinion that the future success of women in pharmacy depends upon their preparation for business on their own account, and not merely as assistants or dispensers; therefore they must qualify for registration under the Pharmacy Acts. Only by that can they get the best and reach the highest points in the practice of pharmacy. It has been particularly noticeable since the war commenced that the greater number of women have missed really good things because they have only an Assistants' certificate; in fact, that has been a distinct bar or discouragement to advancement.

"I believe," said Miss Buchanan, "the business that we women pharmacists are now running at Clapham represents the best present conditions for women pharmacists. Suitable pupils here spend part of their time in the Pharmacy at 17 The Pavement, Clapham, where the conditions are altogether favourable for them getting to know what actually takes place in a retail pharmacy doing a good business in the practice of pharmacy as well as ordinary retail drug-trade. It was partially for this that we took over the business shortly before the war broke out, and formed a limited liability company in order to do so."

"And who are 'we'?" the C. & D. inquirer asked.

"Well," said Miss Buchanan, "I had with me on the directorate in October 1914 Miss Agnes T. Borrowman, Miss Sophia J. Heywood, and Miss Margaret A. MacDiarmid, all pharmaceutical chemists, but the pharmacy manager is really Miss Borrowman. Miss Heywood is with me here, and Miss MacDiarmid has left us, but we four retain our financial interest in the company. But why not go down to the pharmacy and see for yourself?"

"Thank you," said the inquirer; "I have been a good many years in London, but, truth to tell, I have not yet seen Henry Deane's pharmacy, although it is one of the most interesting in the British Empire." So a date was arranged, and the visit accounts for bringing Henry Deane into this narrative, but no apology is necessary because, as a pharmacist, his accomplishments and character had enormous influence on many others who established modern British pharmacy. He was born of Quaker parents at Stratford, West Ham, on August 11, 1807, and at the age of eighteen was apprenticed to Joseph Fardon, chemist and druggist, Reading. At the end of his apprenticeship he got a situation at John Bell & Co.'s, Oxford Street, London, W., where he was the personal friend of Jacob and Frederick Bell, sons of John Bell. He benefited greatly by this friendship, and so did they. Deane was in the Oxford Street



DEANE'S PHARMACY, 17 THE PAVEMENT.

pharmacy for five years, apart from two years during which he was at home at Stratford endeavouring to manage and improve the business of his father, who had become paralysed and incapable of attending to it; there he continued until some time after his father's death, when he returned to Oxford Street. The next

event in his business life was his start at Clapham. This is alluded to in the autobiography which was published in the *C. & D.*, November 15, 1870, as follows:

In the autumn of 1837 I took the business now occupied by me at Clapham, assisted by several friends, but more especially by the late Richard Hotham Pigeon, whose large pecuniary aid, afforded in the most liberal and trusting spirit, was supplemented by the advice of a judicious parent. This step was looked upon as certain failure, but my friend Pigeon and the minority encouraged me with better hopes. Besides, had I not my dear mother and sister with me, entirely dependent on my success? My own mind never wavered. I was not afraid of work, and I knew how to live on bread and cheese, with no stronger drink than a cup of tea or a glass of water. Providence favoured me in a most wonderful manner, and my best hopes were more than realised, so that in a very few years I was out of debt and prospering to my heart's content.

Mr. Pigeon became in 1841 the first Treasurer of the Pharmaceutical Society of Great Britain, and he held that office until 1850, when he was succeeded by his son. Mr. Pigeon was also a benefactor and officer of Christ's Hospital, London; indeed, a predecessor in the treasurer-ship of Sir Walter Vaughan Morgan, Bart., one of the founders of the *C. & D.* Very little has been published regarding Henry Deane's business premises. Facts and fancies are, however, very numerous and have become traditional in connection with the pharmacy. For example, one of the fancies is that the fine engraving of the laboratory of Bell's pharmacy by W. Hunt is said to show the earliest portrait of Henry Deane; that is, the little boy in an apron who stands at the back. This is, of course, an error, seeing that Henry Deane did not enter the pharmacy until he had reached his majority; but a copy of the engraving belonged to Henry Deane and it has to remain in the shop parlour, being transferred from owner to owner of the business so long as it is a pharmacy. We expect he got it from Jacob Bell, whose friend Hunt was. A reproduction of the engraving was published in connection with the Jubilee of the Pharmaceutical Society in the *C. & D.*, April 18, 1891.

In his autobiography Henry Deane states that on the establishment of the Pharmaceutical Society in 1841 he became one of its first members, but took no active part in its formation. Nevertheless, before the Society was three years old he was requested to become an examiner. He became a member of the Council in 1851. "Almost before I had taken my seat," wrote Mr. Deane in his autobiography, "Mr. John Watts, of the Edgware Road, proposed me as Vice-President, which extraordinary proposition was at once carried, and I was enthroned at the lower end of the table. Thomas Herring was President. The following year (1852) Mr. Joseph Gifford was elected President, and I again Vice-President. In 1853 and 1854 I was President and underwent the severe ordeal of the prosecution by Mr. Dickenson, from which the Society ultimately emerged victor." The officers of the Society in those days were exceptionally hard workers, for the staff consisted only of one or two clerks, apart from the Secretary (Elias Bremridge). Henry Deane once calculated how much of his private time had been given to the Pharmaceutical Society during the period of about twenty years that he held office, and his estimate came out at about a fourth of his working time.

His pharmacy is a substantial double shop over which is the family residence, but when Henry Deane took over the premises in 1837 and married the Cheriton lady who had a school in the neighbourhood, they lived in a house at the back of the building, and there their first son was born; but by 1847 Dr. Mantle, the eminent geologist, who lived in the front house as a tenant, left, and Henry Deane occupied it as his private residence, and there his daughter and second son (James) were born. The assistants were accommodated in the back premises, and comfortable they are. It was while walking to the Ostend boat at Dover on his way to visit his eldest son at Pesth, where he was a civil engineer, that Henry Deane had a sudden heart-seizure, from which he dropped down and died on April 5, 1874. His son James acted as manager of the business for his mother until 1878, when he bought it for himself, carrying it on until 1885,

when it was purchased by Mr. W. Prior Robinson, Ph.C., brother of Sir Richard Robinson. Mr. Robinson continued it with success until his retirement a few years ago, when it was purchased by Mr. Sanders, who carried it on for three years, after which Miss Buchanan and her associates purchased it. Very few alterations have been made in it by them. The pharmacy is magnificently equipped with solid mahogany fittings; even the shop-door and the door to the private residence above are of solid mahogany. It is said that these represented to Henry Deane many dinners sacrificed, but *cum grano salis* is all that we need say about that, seeing that Pigeon was his friend and the business was financially well off. The left side of the shop is the customers' side, and the solid mahogany counter there is of conventional character. The wall-fitting has five rows of drawers, and above six shelves for bottles, the topmost of these being well filled with gold-topped bottles or jars. On the other side of the shop the wall-fitting is similar to that at the customers' side, but the top shelves are filled with large boxes duly labelled in the same manner as the bottles and drawers. These boxes are for holding stock. This is a comparatively rare fitting. This part of the pharmacy has a long dispensing-counter, which is well hidden from customers by the upright showcase in the front of it, wherein are displayed brushes and many other toilet-articles, as well as surgical and sick-room requirements. The floor-space between the two counters is generous, and, since the ladies took charge, they have displayed more goods upon a show-table at the rear. It is useful to mention here that prior to taking over the business the ladies decided to wear distinctive shop-dresses, and they got an artist friend to design one for them. This is simply a holland dress with cuffs and collar of sage-green. The design is shown in the accompanying sketch. Miss Borrowman is most emphatic in regard to the business utility of this coat. She told us that previous experience elsewhere had shown that customers who came in were exceedingly shy to find ladies wearing ordinary everyday dresses behind the counter; but now that these coats are worn, customers seem to appreciate the fact that they are dealing with women who are specialists in pharmacy (the very thing that customers go into the shop for), and increasing confidence has been the business characteristic ever since. Miss Borrowman has three assistants—one who has passed the Minor examination (Miss Margaret Simpson), the other two being student-apprentices. The pharmacy had an old-established reputation in regard to shop-hours (chiefly late), but the ladies changed these to from 8.30 to 8.30, and 9.30 on Saturdays. They find that the scheme works admirably.

Behind the pharmacy is a series of departments connected with it, such as the shop-parlour; behind this a room in which at one time a soda-water engine was installed and aerated waters were made. Here also is a fine old marble mortar, and on one wall is the big pestle which was attached to a sort of spring arrangement that facilitated the up-and-down motion. There is very abundant cellarage; it is used for storage, and the old kitchen is now devoted to heavy oils and allied goods. In another cellar disinfectants such as Sanitas are stored, and a special cupboard is devoted to essential oils. In one of the rooms chemical apparatus could be seen, and this, we learned, was Henry Deane's own, used by him in



THE LADIES' PHARMACY COAT.

The costume is made of holland, and is trimmed with sage-green collar, cuffs, and belt.

his experimenting. In the back-yard of the house still stands a hothouse, in which at one time grew an excellent fig-tree, but it had to take second place to a Killarney fern which grew in the same house, and which had the reputation of being the finest of its kind in England. Henry Deane appears to have been very careful about these plants, and he attended to them himself. Now there is very little vegetation except what has been introduced by the ladies. There is also an extensive bottle-store.

Perhaps to the mere man the most striking thing about the pharmacy as it is at present is the perfect order in which everything is kept. As a business it is one of the best demonstrations in this country of women's ability to carry on retail pharmacy. The inability to do this has been the real drawback to feminine pharmacy in this country. The majority of women who have gone in for pharmacy in England have not been of the shopkeeping class because they have not had to earn *all* their own living. This is generally the case with girls whose parents simply require them to earn something, but do not ask them to keep themselves. There is a different class, who must do that, in Scotland, where State education is as good as in English schools of the "North London Collegiate" type, although the pupils belong to families every one of whom must earn a living for himself or herself. The consequence is that in Scotland girls who are apprenticed to pharmacists



MISS M. E. BUCHANAN, Ph.C. MISS AGNES T. BORROWMAN, Ph.C.

have exactly the same outlook as boys, and there is something in this opportunity and bitter necessity that makes them business women right from the beginning. This, it will be appreciated, is the very thing that some English girls want to avoid. As we have already indicated, it is Miss Buchanan and her associates' aim to break this down, or, in other words, to adapt the Scotch system as far as possible to the English conditions. In this connection it is interesting to note that pharmaceutical women have, on the whole, a better social status than men, and the shop improves this rather than the contrary. Since Miss Buchanan was at the Square, thirty female pupils have taken honours of some kind there, the greater part of them in these later years. The three women who have in these latter days gained the Pereira medal have been students of Miss Buchanan's, whose services to British pharmacy as a leader have still to be reckoned, for this article does not touch a tithe of the work that she has done. Miss Borrowman is a good example. She served her apprenticeship to Mr. D. J. Johnstone, Melrose, after which she went to Edinburgh as an assistant to Mr. W. Lyon, Ph.C., and there took Mr. Cowie's classes, passing the Minor examination in January 1903. Then she came to England, and was an assistant for some time with Mr. Beetham Wilson, Dorking, thereafter was for a short time in a Slough pharmacy, after which she went to the Square to complete her Major studies, including work that had been commenced under Mr. Beetham Wilson. She took the second certificate in advanced practical chemistry at the School, and passed the Major in April 1909. She was for three years thereafter engaged in caoutchouc research-

work with a firm to whom Professor Crossley had recommended her. While in that position she communicated a paper to a conference of caoutchouc chemists, held at the International Rubber Exhibition, London, 1912, and hers is the distinction of being the first woman to address a gathering of this nature. A short time afterwards she joined Miss Buchanan and her friends in acquiring the Deane business and carrying out the idea of training women in the business part of pharmacy. Now Miss Borrowman is an optimist at this. Perhaps our male readers would like to know how it is done. This needs no telling. Pharmaceutical women may do things differently in some respects from men, but it is because they are women, more tasteful in what they do and how they do it. This pharmacy of Henry Deane's is doing good work in a pioneering way.

B.P. Notes.

By "Abel Scholar."

Tincture of Quillaia.

Does the pharmacist make his saponin-containing tinctures in the correct way to ensure a really good product? It is feared that he does not, for if, say, tincture of quillaia is prepared according to the B.P. and the marc subsequently treated with cold distilled water, the percolate froths very considerably and the aqueous extract produced is not inconsiderable. A quantity prepared according to official directions gave a liquid having s.g. 0.916, and the percentage of total solids was 1.25 per cent. w/v, equal to 25 per cent. of the powder acted upon. The marc exhausted with cold distilled water gave a clear solution, with a residue equal to 5 per cent. of the powder acted upon; and on adding this to the original tincture it enhanced its value as an emulsifying agent for such things as ol. filicis maris and castor oil, while it would also presumably enhance the therapeutic power of the tincture if it possesses any.

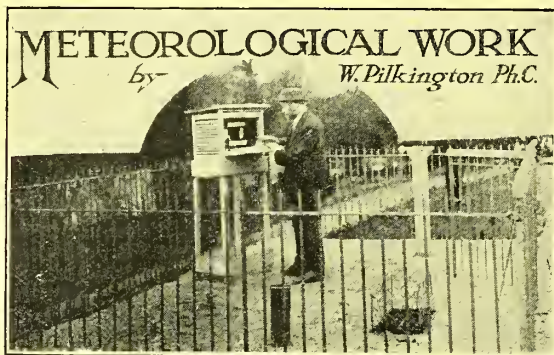
Essential-oil Tests.

When the vapours which rise in the test-tube when glacial acetic acid is added to a saturated solution of sodium nitrite are brought in contact with oleum sassafras a crimson-red colour is obtained, which, on standing, changes to a deep citron-yellow colour.

The B.P. test for phellandrene ($C_{10}H_{16}$) in the official eucalyptus-leaf oils has been altered by the addition of petroleum ether to the reagents used. During the examination of a sample of oil by the new process transparent crystals were obtained, which adhered to the sides and bottom of the bottle. On removing the liquid from these, washing them with petroleum ether, and well draining the bottle, the crystals were treated with water, in which they readily dissolved. Further tests showed that they are nothing more than sodium acetate. It is therefore desirable to prove that the crystals found are not sodium acetate before deciding by this test whether phellandrene is present.

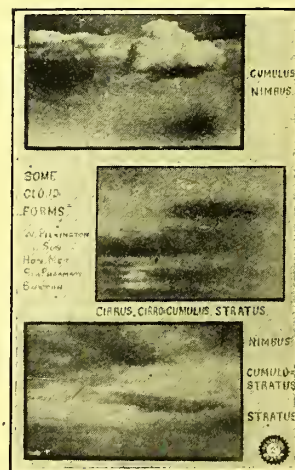
Solubilities of Essential Oils.

What has oleum cajuputi done to cause omission of its solubilities from the official monograph? Similarly the question may be asked of the following important volatile oils: Oleum abietis, ol. ajowan, ol. copaibæ, ol. cubebæ, ol. graminis citrati, ol. limonis, ol. rosæ, ol. sinapis volatile, and ol. terebinthinæ rectificatum. Seeing that some of them are quite new to official British pharmacy, one would have thought it desirable for the pharmacist to be introduced to their solubility characteristics. Can it be that the much-criticised and difficult processes of examination introduced into the monographs of some of them are a compensation for what is, after all, the most essential character as far as their use in pharmacy is concerned? A survey of the volatile oils also suggests two more questions. "When distilled in a vacuum": what kind, partial or complete, and at what pressure? Again, "in a vessel surrounded by a freezing mixture": should it not state what kind of vessel and the nature of the freezing mixture to be employed? Both considerations would make some difference to the test.



PPRIVATE meteorological work applies mainly to the wealthy. I have fitted up one such local installation, which was abandoned after a few years as the keeping of records was left to the gardener and chauffeur with but scanty and diminishing attention. Public meteorology appeals more to chemists in business for various reasons, and I strongly recommend them to consider taking up the work when vacancies and opportunities offer. It affords a pleasant and healthful relaxation from the daily grind, gives one a unique local standing, and brings grist to the mill in various ways. It requires, however, a vast amount of perseverance and expenditure of energy, but I maintain that it is worth the sacrifice, and if one is fond of the work one soon feels compensated for the effort required. Much of the detail work can be delegated to juniors, such as taking the readings and observations at set times, working out the barometric corrections for altitude, temperature, etc., and working out humidities from tables, filling in the charts in public places, preparing weekly reports for the local newspapers, preparing code telegrams daily for the Government Meteorological Office, preparing daily, weekly, and monthly reports. The annual report consumes more time, as there are so many statistics to prepare, condense, and write up; but this, incorporated in the Devonshire Hospital report and the official guide to Buxton, has the widest circulation of all, both at home and abroad. This report often brings me into touch with prospective residents and visitors, who write for further particulars as to the climate of Buxton, and this naturally spells increased custom later. A few years ago a public installation in another Derbyshire town was about to be extended, and I was called in to advise and to supply the necessary instruments. I have been Honorary Meteorologist at Buxton for sixteen years. The official installation was inaugurated in 1868 in the Devonshire Hospital and its grounds, and this naturally brings me into close contact with the doctors, which is an advantage from a chemist's point of view. I have been dispenser at the hospital for the past three years, and the two daily journeys necessitated by this fit in with two of the journeys for meteorological purposes. The instruments we have are standard barometers, barograph, hygrograph, various thermometers (such as wet and dry bulbs, maximum and minimum, grass minimum, solar and earth thermometers), rain-gauge, and sunshine-recorder, and in addition we take wind pressure and direction, and cloud extent, direction, and varieties. The sunshine-recorder is fixed above the tree-tops, and to reach it by means of a long iron ladder is not always free from danger and discomfort. I have frequently climbed this with lightning flashes playing round me or in blizzards of wind, rain, and snowstorms, which have compelled me to pause and breathe on every rung, and made me thankful to regain *terra firma* in safety. To reach the instruments on the level through deep or drifted snows is not always pleasant. Up to recent years the Royal Meteorological Society used to inspect our instruments annually and receive our reports and work them up from a record standpoint; then the Govern-

ment Meteorological Office took over the work to develop its commercial side in order to provide the daily newspapers with returns for public consumption, and farmers and others, such as sailors and fishermen, with prospects and warnings. Officers from the Government office now call to inspect, and their duty is to test regularly each instrument and condemn any thermometer the glass of which may have altered with age or through exposure, to make suggestions, and to ensure that any new assistant understands his work. The readings for the records are six-hourly—at 9 A.M., 3 and 9 P.M.—with an extra reading at 6 P.M. for the telegrams. About five years ago the Victoria University of Manchester inaugurated a series of experiments on Glossop Moor, Derbyshire, for the investigation of the upper atmosphere by means of instruments sent up with kites and balloons. In conjunction with this the observers all round took special readings, and the results obtained have proved of great value, especially to aeroplanists. Buxton is the premier meteorological station in the county of Derby, and is valued by headquarters because of its central position and its altitude—the highest in the country. The town stands 1,000 feet above mean sea-level, and has the driest atmosphere in the British Isles, bar none. I used to issue a handbill of "daily prospects" which was a valuable advertising scheme as it created a large number of inquiries by telephone and from callers. This gave particulars under "Temperature," "Pressure," "Rainfall," "Winds," "Current Notes," and "Further Outlook." Of course I received all the blame for bad weather and no credit for the good—people have short memories and little gratitude when the taps that suit them are turned on. When war broke out in 1914 the War Office stopped the issue of the "weather prospects" for very good reasons. My shop is looked upon as the place for undertaking the repairs of all the barometers in the town. The penny pocket barometer sensitive cards which I send out are not new, but they continue to be an excellent advertisement. The title of this article shows the Buxton meteorological station, wherein are most of the outdoor instruments [Mr. Pilkington standing in front.—EDITOR]. The ivory match-box covers referred to in the *C. & D.* of June 17 (p. 36) are an excellent and permanent advertisement, but the space for printed matter is too limited. It was the *C. & D.*, by the by, which provided me with the address of makers of these. The clouds-card (reproduced here in reduced size) is more comprehensive in its scope, and the reverse side of it deals with the ever-present subject "weather" as exhaustively as it can be done in the space.



WEATHER SIGNS.

Indications of approaching changes are heralded less by the height of the barometer than by its behaviour in its rate of rising or falling, combined with an intelligent appreciation of the wind direction, temperature, and cloud variations.

1. Cirrus clouds (delicate, feathery, and high) are most useful weather indicators. When these are seen in groups and threads and only a gentle wind following severe weather, we may expect settled serene weather.
2. A change back again is presaged when these cirri travel across the sky more rapidly in bands with converging ends.

3. When the cirri have fine tails and vary much within a few hours, variable weather follows with wind and rain or snow.
4. Continued wet is indicated when cirri fall quickly and become more stratiform.
5. When fine threads of cirri seem to be brushed backward from S.W. expect a storm of wind and rain within forty-eight hours.
6. Fine, calm, warm weather follows when cumuli (wool-pack like clouds) are of moderate size and pleasing in form or colour.
7. Cold, tempestuous, rainy period when cumuli are extensive, dense and dark, and roll over each other.
8. Soft and delicate-looking clouds generally indicate fine weather, while hard-edged and oily-looking clouds indicate wind.
9. Inky clouds (nimbus) indicate rain. Layers of clouds moving in different directions indicate a change of wind.
10. A rosy sunset precedes fine weather, or in the morning the reverse or much wind.

The main foundation of the weather, however, is the weight or pressure of air and its changes as shown by the barometer, summarised thus:

IF FALLING.

1. If a fall takes place with rising temperature, expect wind and rain from S.E., S., or S.W.
2. Falling pressure and temperature foretell snow or rain.
3. Violent storm from N.W. to N.E. usually follows a sudden fall with W. wind.
4. A rapid fall indicates fleeting wind, or wind with rain.
5. Falling pressure on very hot days denotes thunder.

IF RISING.

1. A rise in winter presages frost.
2. A slow, steady rise means more prolonged fine weather.
3. A rapid rise points to fitful conditions.
4. A sudden rise to great height yields but temporary improvement.
5. The highest levels are attained in N. and N.E. winds.

The rain-bearing winds in this country are mainly from W. to S.W.

The lowest pressures are for wind and rain together.

I got these cards for free distribution, but people gladly pay for duplicates, or even for first copies, and the demand is good. Any chemist taking up a post as meteorologist receives full information from an official observers' handbook, in which Buxton has the honour of being represented by a folded completed monthly chart as the model to be followed. It would be interesting to have the opinion of other observers on the following points that strike me: That temperatures are gradually lowering in summer, and winters becoming less severe—the difference being greater than the cycle of tendencies seems to warrant. Also that the accepted signs for the seasons are becoming later and later in making their appearance. The Meteorological Office supply abundant and interesting printed matter which I often turn over to local schools, and I frequently receive parties of scholars and teachers to have the installation explained. I should like to add that any brother chip is welcome to use the cloud design and matter for advertisement-purposes if the source is stated on each, and I am at all times glad to answer any inquiries.

A Postscript.

Writing later, the author says:

I am strongly inclined to think that we shall have cooler and less settled weather than usual for the balance of this year, and that battle-disturbance contributes mainly towards this. A London daily recently aptly illustrated this by likening clouds to huge sponges saturated with water and suspended on strings. To move the taut string and sponges did not disturb the contents, but to vibrate the string caused a shower to be liberated from the sponges. Wind-forces are stronger, clouds more extensive, with consequent reduction of sunshine duration and an appreciable deficiency in temperature. All are most noticeable points this summer, while crops will not be at their best and the farmer's difficulties increased in awaiting droughty periods for cutting and in-gathering the same.

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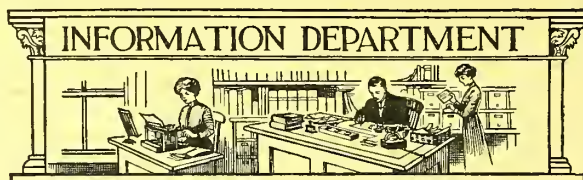
The Destruction of Cockroaches.

MR. J. J. H. HOLT, M.B. ("The Lancet," 1916, I., 1136), has studied systematically the question of the destruction and dispersal of cockroaches. Experiments were made with volatile liquids, essential oils, coal-tar derivatives, dusting-powders, and food-poisons. The tolerance of the cockroach to arsenic is remarkable, and in any case its dangerous character unfits it for general use. The action of the phosphorised poisons was tested more fully, as there seems to be reliable evidence that they have been found effective. It would seem to be the fumes which drive away the cockroach, which is apparently exceedingly sensitive to such respiratory irritants, and this fact is of importance on other grounds. The experiments show that a number of bodies kill the cockroach through the respiration very quickly. This is its most vulnerable point. Assuming that the bodies which kill most quickly are also the most irritant, it is reasonable to suppose that they will also drive the cockroach away most quickly. The problem therefore seems to resolve itself into selecting from the respiratory poisons those which are most irritant to the insect and at the same time least harmful to man. Of these substances bromine is the most active, but it disperses very quickly, and would therefore require the rooms to be sealed. Bromine is also expensive. Sulphur dioxide (from burning sulphur) is also very effective and is cheap. In this case, too, the rooms must be sealed. These are probably the best methods for use on ships, where destruction must be aimed at, as the cockroach cannot be simply driven away. For domestic use the best available and most practical respiratory irritants are wood-naphtha, one of the aromatic oils, or creosote. It is important to remember that a prolonged application, renewed daily (or nightly), is necessary. If only used once or twice the cockroach might regard the vapour as a passing nuisance and return when its influence was spent. Two or three weeks are required to produce any lasting effect. The paraffin-derivatives, though very effective, are too dangerous for common use on account of their inflammability. Many of the aromatic oils are available. The oil of citronella, used by sailors to keep mosquitoes out of their cabins, and by travellers as a preventive, is useful. Tested by the cockroach, the oils of thyme, orange, rosemary, and eucalyptus are more active, and would probably also be more effective with the mosquito. As these oils act by their odour, it would probably be better to sprinkle them upon the clothing, as more could thus be used and the effect last longer. These oils form the basis of many scents, which are therefore more or less anti-parasitic. It is interesting to recall that camphor and lavender have been used for generations to keep moths away from clothing. The experiments indicate, also, that the direct paraffin-derivatives are more toxic than those of the coal-tar series. In both series the toxicity increases to a maximum as the boiling-point rises, until a point is reached after which it declines as the boiling-point rises still further. Many of the dusting-powders owe their efficacy to the volatile oil which they contain. Several are more effective than the Dalmatian insect-powder, the reputed basis of Keating's powder. Potassa sulphurata, which gives off sulphuretted hydrogen, soon becomes inert. The best powder tried was sodium fluoride. This is very effective and keeps well. A mixture of equal parts of bleaching-powder and boric acid also acts well and keeps well. Although boric acid is useful, borax is useless. The powder of veratrum album is slightly active, veratrum nigrum useless. Summarising the results of the experiments as a whole, they seem to indicate that many of the substances which have been supposed to kill the cockroach have really acted by driving it away and so leading to its disappearance. Such gregarious migrations have been observed, but have hitherto been otherwise explained. For quick destruction, stoving with bromine or sulphur dioxide is apparently best. For domestic application the daily use of creosote, wood-naphtha, or the oil of rosemary, eucalyptus, or citronella placed near the haunts of the cockroaches for two or three weeks should effectually disperse them. Where these are inadmissible on account of their smell, odourless dusting-powders may be used. Of these sodium fluoride was found to be the most effective. It is also cheap, and keeps indefinitely.

ARE ALL OUR UNIVERSITY CHEMICAL LABORATORIES incapable of turning out a few hundred pounds of phenacetin or phenazone, or even of sodium salicylate? It is painful to see sick men and women deprived of analgesic drugs, which have almost become a necessity, owing to their high price.—*Dr. J. C. McWalter.*

Postal Address

THE
CHEMIST AND DRUGGIST
(Information Department).
42 Cannon Street, London, E.C.



Telegraphic Address:
"CHEMICUS CANNON
LONDON" (two words).

Telephone Number:
CENTRAL 3617 (three lines).

INFORMATION WANTED.

Postal or telephone information with respect to makers or first hand suppliers of the undermentioned articles will be appreciated

- | | |
|---|--|
| 23/8. Liquid "Arbon" for the hair. | 8/98. Booth's water-purifying tablets. |
| 17/27. Aethoform. | 15/19. "Flowers of India" perfume. |
| 17/30. Braysshaw's salt. | 3/72. Hanley's chloride of lime. |
| 18/52. "Bromweed" remedy for asthma, bronchitis, etc. | 24/40. "Dryfoot" for horses' feet. |
| 15/25. "Mascar" brushes. | |

INFORMATION SUPPLIED.

Inquiries regarding the following articles have been answered. The information as to supply will be given to others who send a stamped, addressed envelope to the Information Department, THE CHEMIST AND DRUGGIST, 42 Cannon Street, London, E.C.:

- | | |
|--|---|
| "Antexema" preparations, 4/21. | "Gre-solvent," 246/35 and 11/67 |
| "Antiformin," 231/56 | Guerin's Eau de Cologne bath-tablets, 243/46 |
| Anti-vermin belts, 228/33 and 244/23 | "Harborne" window-dressers' outfit, 5/6 |
| "Asiatic" body-cord, 245/32 | "Inecto" hair-dye, 19/59 |
| "Auto" finger-bandages, 240/48 | Iodoform lozenges, 6/32 |
| "B.P." feeding-bottle and rubber goods, 259/28. | Isarol, 5/39 |
| "Bacterol," 257/64 | "Ivradent" tooth-paste, 16/39 |
| Barfi's boro-glyceride, 257/58 | Jackson's benzine, 19/13 |
| Bengue's ethyl chloride, 4/52. | "Jardox" beef-tea, 252/25 |
| Bisurated magnesia, 258/61 | Jenner's remedy for constipation, 253/56 |
| Blanc fixe, 23/71 | Keene's still, 18/48 |
| "Bromo" toilet-paper, 7/45. | "Kergold" anti-vermin body-belt, 10/63 |
| Brook's trusses, 258/58 | "Kharu" fruit, 2/12 |
| "Burlington" glycerin syringe, 257/53 | "Kur-i-Can," 16/51 |
| Buzzel-Flanders catgut, 8/55. | "Lablossom Blush" face-powder, 6/9 |
| Capping-skins, 248/34 | Lac bulgaricus tablets, 240/53 |
| Carter's little liver pills, 24/28 | "Lactogen," 3/59 |
| Casoarine Leprince, 24/17 | "Lady Macbeth" cloth-cleaner, 256/8 |
| Casein, 11/1 | Lichenoids, 9/42 |
| "Catholicon," 2/12. | Lipiodine, 19/58 |
| Chamberlain's liver and stomach tablets, 234/47 | Mackenzie's (Sir Morell) smoking-mixture for asthma, 246/33 |
| Chapman's food, 6/34 | Mechanical figures for window-display (Australian inquiry), 12/42 |
| Check tills, 12/9 | "Melanyl" marking - ink 252/262 |
| Chemical manufacturers in Switzerland (for Canada), 226/32 | "Melargen," 13/13 |
| Chip-box machinery, 250/18 | "Mersalv," 252/24 |
| "Chiro" corn-extractor, 12/70 | Methylene blue, 244/32 |
| "Ciefa," 233/72 | Microphones, 229/39 |
| Clinical thermometers, 249/3 | Milk casein, 26/48 |
| Corkscrews for perfume bottles, 8/6 | Monomet, 24/19 |
| De Jongh's cod-liver oil, 13/43 | Morgan's pomade, 257/59 |
| "Dewette" for softening the hands, 3/6. | "Nutta" boot-polish, 24/29 |
| "Drysules" of quinine sulph., 15/26 | Perfume sachets, 237/54 |
| Durham duplex razors and blades, 227/28 | "Peronia" perfumery, 242/37 |
| Ear-plugs, 14/17 | "Pino" paste, 26/42 |
| "Electro-Silicon" plate-powder, 5/41 | Pond's vanishing cream, 236/220 and 252/261 |
| "Elixir Varicolum," 245/23 | Poudre Nide, 240/34 |
| "Emo" photographic paper, 9/60 | Powder-puffs, 256/73 |
| Epsom salt, 246/28 | Pray's, Dr. Parker, specialties, 257/58 |
| Eucalyptus disinfectants, 235/11 | "Prolaetum," 257/58 |
| "Euresol," 17/40 | "Purgoids," 236/22 |
| "Eusol," 234/2 | "Pyrea" astringent mouth-wash, 247/36 |
| "Fermentactyl," 15/74 | San Kresyl, 26/41 |
| "Fleurilised wax," 237/10 | Seltzogenes, 17/46 |
| Flowers of sulphur, 18/50 | "Shavo" shaving-cream, 14/19 |
| Formamol, 18/2 | Stationery, 25/65 |
| Fraser's corn-plane, 20/5 | "Steriline," 256/66 |
| Geraudel's pastilles, 242/33 and 244/33 | "Stopit" first-aid dressing, 20/46 |
| Glass demijohns, 258/60 | Stubb's dry cleaner, 18/49 |
| Glydine substitute, 259/41 | Sturrock's chloroform cologne, 1/24 |
| Glycerin substitutes, 18/26 | Styptol tablets, 26/47 |
| "Gonorex," 19/63 and 238/20 | Sulphaqua charges, 240/19 |
| Goodman's corn-files, 236/26 | Willow boxes (substitute), 26/29 |

APPRECIATIONS.

From an Anglo-Russian Export Firm:

"Please accept our best thanks for your prompt replies to our inquiries for names and addresses of suppliers of various chemicals."

From a North London Firm of Manufacturers:

"We desire to thank you for so promptly replying to our query, and to say that the information you supplied has enabled us to get into touch with the desired firms."

From a well-known Firm of Dispensing Chemists:

"Thank you very much for the information contained in yours of the 6th inst.; and through your good offices we desire to say we have immediately obtained the article from Messrs. —" (9/73.)

From an historic Druggists' Sundries Firm:

"Thanks to the activity of your Intelligence Department, the mail bringing us your note of yesterday has also brought an order from the correspondent whom you kindly referred to us. We appreciate the prompt and courteous attention given to inquiries." (11/51.)

At the Counter.

FROM PLYMOUTH.—"Please do you keep porious plasters with-out holes."

ENTER TWO SHOP-ASSISTANTS. First: "I have a horrid pain in my back. Would a belladonna-plaster be best for it? I hardly know how to describe it; it is not exactly internal." Second (lady friend): "Well, my dear, to-day you described it as eternal." Chemist (anxious to assist): "What about inf?"—Agreed nem. con.—(258/49).

A LANCASHIRE CHEMIST (68/11), who prefers that his name should not be given, has sent us a fine collection of written orders handed over his counter, which is in a town where one of our most distinguished heart-specialists used to practise. There is enough in the orders to make the heart of the chemist irregular in its action, as may be judged by the specimens we give, which are "set up" by the compositor from the originals:

- | | |
|----------------------------|-----------------------------|
| Borxatic. | 1 tab of Catacura Soap. |
| 1 cleayce. | 1 Worth of happydillock. |
| 1d. tul lu. | Dr. Hormtets Empathe- |
| 2 Cachineal. | gen. |
| 1d. olive ole. | three pennyworth of iky- |
| Sascapas Oil. | piky. |
| Squshey Chips. | 4½ Lufus for washing us |
| 1d. ipiece wine. | with. |
| Bith my Drops. | 1d. Sulphur of Acid, 1d. |
| Beanchilees 1d. | Hypic. |
| 1d. appydillock. | 2d. Pennyworth of Charri- |
| 1 supyz of quills. | thetics. |
| Bismeth Tablets. | inches Poder (itching- |
| 1d. powder Inceto. | powder). |
| Phernacitines Pellets. | One Pennyworth of Bitter |
| asitate of potash. | Halace for Weaning a |
| 3d. Bugah Leaves. | Baby. |
| 1d. of Draons Blood. | Will you please send 3d. |
| 3d. ozemel of quills. | of the the very purest Eau- |
| Sryups=Sxuils. | de-colounge. |
| 2d. of blue Uncion. | 1 oz. of Glyezrine. |
| 1 supys of madin air. | 1 oz. of Eppea wine. |
| 1 oil of sweet allmonds | ½ oz. of Sulphur of Ether. |
| clorid of lime for smells. | ½ oz. of Clordydine. |

Many years ago under the title "Summer Saline" the C. & D. published an article by a Knight of the Road, to which a supplement is still possible, we think, especially when such orders as the above come to us.

Observations and Reflections.

By Xrayser II.

Professor Metchnikoff

did not reach the century that he professed to anticipate, but into his seventy-one years of life he crowded as much work as the average scientific man accomplishes in double that time. While some of his theories have already been forgotten—as, for example, the sour-milk craze, a most admirable idea in itself, as many of us have proved, but which got its death-blow when the public took it up without consulting the doctors—one great discovery remains to rescue his name from oblivion. I refer to his theory of the action of the white blood corpuscles which has been so brilliantly proved, expounded, and further developed by Leishman, Wright, and others of the vaccine school. With every advance of medicine there is bound to be associated a certain amount of empiricism, and vaccine therapy is no exception; but beneath the accumulated quackery there is a substratum of solid truth, and with this great doctrine of phagocytosis Metchnikoff's name will ever be linked. I had the opportunity of meeting Metchnikoff on the occasion of his last visit to London, and I recall with pleasure his modest and unassuming manner and his abstemious habits. We were having afternoon tea, but that usually harmless beverage was too strong for him, and he contented himself with milk-and-water!

The Question of Costs

in connection with new chemical processes and products must always be of supreme importance to the manufacturer. No matter how promising a process may be, it is not likely to be of any practical value if the expense of working it is greater than the product will bear. Dr. Carpenter's caution is therefore of great importance, for it is doubtful whether in the past we have given sufficient prominence to the bread-and-butter aspects of our research-work. This point of view is not, however, being entirely neglected, since the authorities at University College have provided a laboratory where processes can be worked out on a scale intermediate between the research and the manufacturing stages, thus proving not only the practicability of any process, but the economic possibility of the product. The recognition of the necessity for such a halfway house is evidence that something more than pure research is wanted if we are to keep abreast of other nations in scientific work. Once the funds are forthcoming for carrying out the necessary experiments we need not fear competition from any quarter.

Italy

is not only the land of romance and of art, but she has a special claim on our regard for the services rendered to medicine by her great schools. That of Salerno can hardly be regarded as Italian in origin, but it gave rise to really native schools at Padua, Bologna, Venice, Naples, and elsewhere, in which medicine was studied with a zeal and success that have left their mark on every branch of medical science. In anatomy Fallopius and Eustachius have given their names to important organs of the body; Fabricius, who succeeded Fallopius in the Chair of Anatomy at Padua, has been called "the father of modern surgery"; in botany, Matthioli, Colonna, and Prosper Alpinus are still names of note; and it might be added, without unduly straining a point, that, though it was not so called, the Antidotarium of Nicolas was the first of our European Pharmacopœias.

"Germany,"

said a Swiss scholar of French blood, writing the other day to a relative of mine, "received the Græco-Roman civilisation and Christianity several centuries later than Southern and Western Europe, and has not yet assimilated them to the same extent." It is thus he explains, though he does not excuse, her lust of war and methods of making war. I am reminded of what Goethe repeatedly said of German *Kultur* in his conversa-

tions with Eckermann. He spoke of culture—using the German word exactly in the sense of our English one—as very rare and very imperfectly understood in Germany. It would (he said) be centuries before the Germans would be a really cultured people. I commend these sayings to those among us who would have us treat Germans as scarcely human, worthy only of contempt and hatred. They are simply a few centuries behind us in development, in the materialistic stage; as the old Puritan phrase has it, still "making bricks in Egypt"; and for us to relapse into that stage would be a worse crime than any they have committed against civilisation. To fight them with their own weapons would be to desert the cause for which we stand. Dr. Gordon Sharp said the other day, referring to the German use of *cevadilla*, that their method is begotten of hell, while ours is the divine method. At all costs we should try to justify the latter half of this assertion.

The "Minor Man" of To-day

is, in the estimation of the vast majority of the trade, and presumably of the Society which is responsible for him, sufficiently qualified for all the work that ordinarily falls to the pharmacist. Many pharmacists, however, are not satisfied with this work, and they hold the opinion that a higher qualification would of itself ensure them higher work. I have more than once combated this view, and my objection to it has not been met. It is an honourable ambition that leads men to aim thus at what exceeds their grasp, and Mr. Grier's suggestion at the "uplift" meeting of July seems to offer a way to its partial realisation. I made a similar suggestion some time since, but my note was "crowded out" by a more urgent matter. To increase the stringency of the Minor examination so as to limit the supply of pharmacists in the interest of those who already practise pharmacy would, I am persuaded, even from that selfish point of view, be bad policy, for it would immensely increase the number of unqualified practitioners; but no such objection can be urged against the strengthening of the Major qualification in such a degree as manifestly to fit its holders for the purely scientific work for which some of us crave. A Major man is at present very much a man in the air; the examination consequently attracts few candidates, and neither the Society nor the trade gains much *kudos* from those who pass it; but it can scarcely be doubted that if their position were that of acknowledged scientists the practical result would be a very considerable increase, not in honour only, but in the character of their work. By reflection such a class of pharmaceutical chamists would raise the tone of the whole body of pharmacists.

The Profit on Proprietaries

has been engaging the attention of the Conference of Grocers' Associations at Nottingham, and a demand was made at the instance of the Committee dealing with the subject that the standard of gross profit should be raised to 20 per cent. It is in a sense satisfactory to find that the grocers are no better satisfied than ourselves with existing profits, but there is, I am afraid, no hope of effective common action between them and us in this matter. The Committee's report was opposed by Alderman Hinton, of Middlesbrough, who said that in the strenuous years to come there will be no room for the man who cannot distribute proprietaries at less than 20 per cent. profit, and the remark will carry conviction to anyone who reflects on the problems of the time in the light of past experience. If these things have been done in the green tree what will be done in the dry? Whether the trade in proprietaries is worth cultivating or not may be questionable; that a good deal of it is not directly remunerative is certain; but there is no likelihood that in the increased tension with which we are threatened conditions will improve for the retailer. Everything points to the contrary, and the question, Will there be any room for the retailer at all? sometimes becomes insistent. The pharmacist is comparatively happy in being something more than a mere retailer, and his wisdom consists in cultivating his special function.

Calcium monoacid phosph.
 Camphor monobromate.
 Cantharidin.
 Carminic acid.
 Caryophyllene.
 Cedar-wood oil (for micro-
 scopy).
 Cedrene.
 Cellulose acetate.
 Chaulmoogric acid.
 Chloral hydrate.
 Chloralamide.
 Chromic acid.
 Cineol.
 Cocaine and salts.
 Colloidal metals.
 Diacetyl tannin (tannigen).
 Dimethylglyoxime.
 Diphenylamine.
 Dulcitol.
 Eserine and salts.
 Eucaine.
 Eugallol.
 Formalin.
 Formamide.
 Formates.
 Gallic acid.
 Glucose (medicinal).
 Glycerophosphates.
 Glycin.
 Gynocardic acid.
 Hamoglobin.
 Hexamine-resorcin (hetra-
 lin).
 Homatropine.
 Hydroquinone.
 Hydroxylamine sulphate.
 Hyoscine.
 Hyoscyamine.
 Iodatol (iodipin).
 Iodised protein.
 Ionone.
 Iron perchloride.
 Isatin.
 Lacmoid.
 Lactates.
 Lanoline.
 Lecithin.
 Lenigallol.
 Levulose.
 Limonene.
 Lithium acetylsalicylate.
 Magnesium ribbon.
 Mannitol.
 Menthol.
 Metanitrobenzoic acid.
 Metaparaphenylenediamine
 and salts.
 Methyl di-tannin (tanno-
 form).
 Metol.
 Molybdic acid.
 Musk, artificial.
 Myristic acid, pure.
 Naphthaline tetrachlor.
 Neosalvarsan.
 Novocaine.
 Cnanthic ether.

Oleic acid, pure.
 Oxamide.
 Palmitic acid, pure.
 Paraffin (medicinal).
 Paramonochlorphenol.
 Paraphenylenediamine and
 salts.
 Peptone (bacteriological).
 Phellandrene.
 Phenacetin.
 Phenolphthalein.
 Phenolsulphonphthalein.
 Phenylhydrazin and salts.
 Phloridzin.
 Phloroglucin.
 Phospho-molybdic acid.
 Phthalic acid.
 Pilocarpine.
 Pinene.
 Piperazine and salts.
 Propyl alcohol.
 Pyramidon.
 Pyrogallol monacetate (eu-
 gallol).
 Pyrogallol triacetate (leni-
 gallol).
 Rare earths.
 Resorcin.
 Resorcin monoacetate (eure-
 sol).
 Salicylic acid and salts.
 Salipyrin.
 Salol.
 Salvarsan.
 Selenium (metal).
 Selenium oxide.
 Silver citrate (itrol).
 Silver lactate (actol).
 Silver protein (protargol).
 Sodium acetylsalicylate.
 Sodium chaulmoograte.
 Sodium malourea (medinal).
 Sodium stearate.
 Stearic acid, pure.
 Succinates.
 Sulphanilic acid.
 Sulphonol.
 Sulpho-salicylic acid.
 Syntan.
 Terpene hydrate.
 Terpeneless oils.
 Terpineol.
 Theobromine sodio-acetate
 (agurin).
 Thiosinamin.
 Thorium salts.
 Thymol.
 Thymol di-iodide (aristol).
 Titanic acid, pure.
 Toluidines.
 Triacetin.
 Trichloracetic acid.
 Trional.
 Tropacocaine.
 Uranium acetate.
 Uric acid.
 Urotropin (hexamine).
 Vanillin.

It may be said that we are in an excellent condition here for doing nothing; millions of men are now engaged in fighting, and other millions in producing the materials for fighting, so that the circumstances are not favourable to increased manufacture. Yet there we have evidence of progress being made. The present is not the time to estimate how much we are doing. It must suffice, for example, as regards salicylic products, to know that about a dozen firms are making salicylic acid, salicylates, and acetylsalicylic acid, and if we look after things properly when peace is restored these home makers should suffice to hold the home and export markets. It must not be lost sight of that very great difficulties have to be encountered in starting new manufactures in war-time, and that these are intensified in chemical industries. Labour is scarce, and the price of raw materials is high. In some cases the materials are

commandeered to be used for national defence purposes. To win the war is the first object at present, so that these difficulties are unavoidable. British Dyes, Ltd., which was started under the auspices of the Government, has been subjected to a good deal of criticism, particularly in quarters where such expressions are absolutely unpatriotic, and too frequently are based upon a lack of knowledge. The governors wanted 2,000,000*l.* capital to start the company, and that is only a fortieth of the capital invested in similar German works. In the end half a million was all that was subscribed to the company. A splendid reply to the unpatriotic and ignorant critics has been given by Mr. C. M. Whittaker in his Society of Chemical Industry paper. The difficulties that he spoke of are known to most chemists, and we presume Mr. Whittaker wanted to make them known to a wider public. He particularly emphasises the fact that the raw materials needed in the colour-industry are the same as are required for making explosives, and it is satisfactory to note that the expansion of output of these materials will help when peace is restored to further the expansion of the British chemical industry. This country, being the largest consumer of coal-gas, produces relatively large quantities of benzol and toluol, but since the war these articles have been produced in enormous quantities from coke-ovens, most of which previously had used these by-products as fuel. Again, the quantity of sulphuric and nitric acids made is many times larger than before the war. Nitric acid is, moreover, made by the newer methods from atmospheric nitrogen. This will ensure that in future there will be no shortage of the acids which are required in most chemical operations on a large scale. Carbolic acid is obtained from coal-tar, but the quantity is limited, and many factories are making it synthetically by the caustic fusion of the sodium salt of benzene-mono-sulphonic acid. Mr. Carr, in his paper on organic chemicals, indicated some of the heavy chemicals which must be obtainable in large quantities in this country if the manufacture of fine chemicals is to be firmly established. He also pointed out the interdependence of the dye-industry and the manufacture of fine chemicals, thus recalling the point established by Mr. C. A. Hill over a year ago. That this country must in future be economically independent of other nations in regard to "key" industries is indisputable, but our authorities have not learned well enough the fact that chemical-making is as much an essential industry as engineering. The fact seems to be that there is a lack of close organisation in the chemical-industry which it is to be hoped will be overcome by the new Association of British Chemical Manufacturers. There are signs that this body will be confined to representatives of the larger chemical concerns, and as many manufactures of chemicals are carried on on a comparatively small scale it may require a separate organisation for an affiliation with the bigger body. We have a lot to do and something to learn in regard to the foundation and working of such bodies, but so long as this new one is really representative of the industry it can claim a voice in framing the future policy of this country in regard to chemical industry. There can be little doubt that the integral factors of our government have to be changed. We want, for example, a Ministry of Commerce and a linking-up of Parliament with commercial industry as well as finance. We know that some of these things are not being forgotten, although we are at war, but it will largely depend upon chemical-manufacturers them-

selves how they will help the country in furnishing manufactured products requisite to our established industries which we imported from abroad, thus giving our enemies (as the peaceful manufacturers and merchants have proved to be) a key to the business we were doing. There must, of course, be give and take at all times. Goods are bought with goods, and balances are struck in gold. This we are not likely to forget, but we must not leave all the work to be done by the bankers.

Stock Mixtures.

We have already indicated that the Secretary of the Pharmaceutical Society is not quite at one with the Secretary of the British Medical Association in regard to the stock-mixtures formulae that the Association and the Society helped the Insurance Commissioners with. The "British Medical Journal" mentioned last week that the Secretary of the Society addressed a letter to the National Association of Insurance Committees, and remarks:

"The letter attempts to prejudice Insurance Committees against any use of stock mixtures. The two main objections put forward are, first, that they tend to hasty prescribing by doctors, and, secondly, that they are liable when kept to chemical changes. The first of these objections is really an indictment against the whole body of medical practitioners and against every hospital in the kingdom, and it is at once condemned by its sweeping character. The second statement that stock mixtures are liable to chemical changes contains just such a modicum of truth that Insurance Committees need to be warned of it. If the Secretary of the Pharmaceutical Society had stated that all preparations of drugs are liable to chemical changes on keeping he would have been just as near the full truth. The truth is that some simple drugs and some stock mixtures are liable to chemical changes on keeping, but this is by no means true of all. The Secretary is in fact bound to admit that "it may be possible to prepare mixtures which do not deteriorate." He is further compelled to give away his case when he admits that the official British Pharmacopoeia contains some stock mixtures; and the assertion that because the General Medical Council included some stock mixtures it therefore meant to imply that no others should be used, is more amusing than convincing."

This is quite interesting, but both the individuals have slipped on the subject; nevertheless, it must not be supposed that there is anything in the nature of a quarrel between them. Each would like his own way, but they are as happy together as Mr. Glyn-Jones and Mr. Montagu, although they do not always agree.

Glycerin in Medicine.

PRESENT interest in glycerin is great consequent upon the Ministry of Munitions restricting its use in the United Kingdom to medicinal purposes and excluding it from toilet-preparations; but comparatively few pharmacists are to the fore who saw the introduction of glycerin. The present writer recalls graphic remarks of an old pharmacist with whom he was associated, and from these it appeared that the first glycerin was far from being palatable. But a change came with the introduction of Price's glycerin, which was patented in 1854; and a few years later (March 25, 1858) the following letter was written by Mr. G. Payne, of the Battersea firm, to a distinguished pharmacist:

"I am sorry for my delay in replying to your query about the glycerin-preparations. The infusion of senna (query, misnamed) is made by preparing a highly concentrated infusion of senna and adding glycerin to make it of bulk equal to seven times the strength of inf. senna. The infus. rhubarb is really a concentrated cold infusion of rhubarb in glycerin seven times the strength of the Pharmacopoeia. These preparations are not of much value, that I can see; they were made at the suggestion of a medical friend, who thought they would be pleasant for children and keep well. Many of the other preparations are taken from papers published by MM. Cap and Garrod in 'The Chemist.' The solution of quinine is useful when the exhibition of dilute acids would be injurious. The carbonate of iron is, I think, of value. Glycerin has a very marked power in arrest-

ing the conversion of proto into peroxides or sesquioxides, and it occurred to me it would be just the thing for the old mist. ferri co. The solution that we made was eight times the strength of the ordinary mixture, the sulphate of iron and carb. of potash being dissolved in separate moieties and then mixed; the solution does not lose its characteristic green-white colour for a considerable time. It is miscible with water, and at any time, if desired, the myrrh and rose-water might be added. The advantage is getting the iron into the stomach in the form of a protoxide instead of sesquioxide. The phosphate of iron dissolves in the same way. The solution of iodide of iron is not an improvement on the syrup, I think. I believe that there is a large field for the application of glycerin in pharmacy, and we only intended this advertisement to draw the attention of medical men and chemists to the possibility of its being of use in some speciality of their own."

This letter is especially interesting as showing that little advance has been made on the subjects referred to since then; the late George F. Schacht studied the reduction of ferric salts to the ferrous by glycerin, and that substance remains to-day one of the best agents for the purpose.

Quicksilver.

THE recent sharp advance of 1*l.* per bottle in quicksilver coming on the top of a considerable increase in the imports for June, which reached 8,000 bottles, is somewhat strange. However, it is well to remember that the imports in the earlier months of the year were very small, the total for the first half (January-June) being only some 4,500 bottles more than the corresponding period of 1915, and comparing with as much as 35,179 bottles in 1914 and 39,884 bottles in 1913. The exports this year to the end of June were comparatively heavy—at the rate of 2,306 bottles a month—the total being 13,224 bottles, against 4,513 bottles for the first half of 1915 and 11,652 bottles for the first half of 1914. While Italy produces all the quicksilver she requires and has an excess for exportation, there is no doubt that very considerable quantities have been diverted to France both from this side and from Spain direct. Requirements for the manufacture of explosives have probably been of large dimensions in Allied countries, and this must be expected to continue so long as the war lasts. There is good reason to presume that the market is under strong control, while there is some difficulty in securing export permits from the authorities. There is also very little second-hand metal available, and the leading importers are in a position to fix prices as they please. For several months the price was pegged at 16*l.* 15*s.*, and the advance of a fortnight ago was the first announced this year. In our issue of April 22 (p. 96) we suggested the possibility of a renewed advance, and even now there is little chance of a reaction. The current price is the highest seen for several decades, and producers doubtless realise big profits on their operations. The average price for last month was 16*l.* 12*s.* 6*d.*, compared with 14*l.* 12*s.* 6*d.* in 1915 and only 6*l.* 16*s.* in 1914.

"Linking Three Centuries."

A LITTLE over seven years ago we reported upon a visit that we paid to the new chemical and pharmaceutical factories of Burgoyne, Burbidges & Co. at East Ham, and the article is recalled by the formation of the business into a private limited liability company, with Mr. Thomas Farries, F.I.C., F.C.S., as the head, and his partners, Mr. H. R. Arnold and Mr. R. G. Halstead, as the other members of the board. We understand that this conversion is entirely for private and family reasons, and that no change will be made in the *personnel* of the business, which will be continued in precisely the same manner as formerly. We may recall that the business was founded in 1741, or earlier. It is interesting to note that Richard Hotham Pigeon, who helped Henry Deane in starting his pharmacy at Clapham (see p. 792), was apprenticed in 1805 to Fynmore & Palmer, of Throgmorton Street, and became a partner in the business in 1812. Mr. Farries was a "Square" man, and this month is his jubilee as a pharmaceutical chemist (Major examination, July 1866). When the first chemical and galenical

laboratories were established for Burgoyne, Burbidges & Co. in Coleman Street by Dr. W. S. Squire, son of Mr. Peter Squire and a partner in the business. Mr. Farries went straight from the Square to help Dr. Squire in this part of the establishment. Thereafter he was a partner for two years (1874-76) with Mr. Cyriax, and together they joined the Coleman Street firm as partners. Mr. Farries is a very keen man of business, as well as an experienced chemist and pharmacist. Mr. Arnold, like him, is a "Square" man, having been an analytical pupil of Dr. John Attfield. Before going to Burgoyne's chemical laboratory he held a similar position with Gale & Co., and was chemist with John Moss at the Zoedone Works in Wales. He became a partner with Mr. Farries in 1897, and is a leading business man in the London wholesale drug-trade. Mr. Reginald G. Halstead, the third director, is a nephew of Mr. Farries, and went through all departments of the house and attended the School of Pharmacy, Bloomsbury Square, before joining the firm as a partner in 1902. The development in the Burgoyne business during the past ten years, particularly since the East Ham establishment became in 1908 the headquarters of all the material work (Coleman Street being simply retained as a City office), necessarily implied such a development of affairs as conversion into a limited company, but it is satisfactory to note that the personality of the partners is maintained, and this means a continuance of that happy connection which has been a characteristic of the business for so many years.

A Defence of the Individual Chemist.

SOMEONE in the West-end of London who signs himself "Auxilium" has issued a foolscap circular to the owners of proprietary articles having their sale chiefly in the chemists' shops of the United Kingdom. In the course of this he says that "in a few years' time the whole retail pharmacy trade of the country will be in the hands of less than half-a-dozen companies," and the next step will be the establishment of a Trust. His own feeling is that unless the men controlling proprietary interests do something in the matter this ever-growing power will ultimately strangle them. "Auxilium" gradually works up to the point that the proprietary article has made the cash chemist, not the cash chemist the proprietary article, and he strongly advocates the proposition that "the true interests of owners of proprietaries are in the direction of giving support to the individual chemist, and thus maintaining a neutralising influence to the monopolist." More will be heard about this matter.

The Cocaine Curse.

THERE has been a great deal in newspapers throughout the country in regard to the cases reported last week. Most of the matter appears to have originated from a common source, but "M.P.S." contributed to the "Sunday Times" an article entitled "Cocaine-Snuffs. Prevalence of Drug Habit. Hundreds of Innocent Victims." This was to the effect that suprenaline snuffs are largely the cause of the cocaine trouble, and the writer stated that he would not be surprised to learn that the bulk of the snuff now being illicitly sold to soldiers was drawn from stocks held in this country since the days before the war. He proceeded to say:

When discussing these views with a well-known legal authority, who told me that the extent of the traffic among members of the Army was even more widespread than one would conjecture from perusal of the reports of the police-court proceedings, he said that the provisions of the Pharmacy Acts of 1868 and 1908 are inadequate. In the first place, as he pointed out, the penalty of 5*l.* is altogether too insignificant to put any restraint on the unscrupulous dealer; secondly, the duty of prosecuting unauthorised persons selling drugs to the public is entrusted to the Pharmaceutical Society without remuneration from the State. The remedy is a task for the Government. It would not be so difficult to find out exactly what stocks are held in this country and to keep a strict account of all imports. All wholesale deals should be also registered, and, of course, restricted only to qualified medical men and druggists. To control the sale, and at the same time to help the chemist to carry out his part without fear of offending customers, we might borrow a hint from the

German food-card system. It should be enacted that drugs are to be obtainable only on production of a doctor's prescription, which, when dispensed, should be marked by the chemist, which mark should prevent the customer getting it made up again within a certain period of time. Any contravention of these regulations and any sale of a drug by any unqualified person should be subjected to the severest penalties of imprisonment and fines.

It strikes us that one effect of this article, apparently written by a pharmacist, is to put upon chemists and druggists the responsibility for the present trouble, and this we submit has not been supported by the evidence given, nor has it been proved that chemists as a body have not most carefully accorded with the law. Moreover, we submit that the Army Council's order should meet such cases as have been brought into the court.

Germany in Want.

We append extracts from two leading newspapers in regard to conditions in Germany, which have been reported in the *C. & D.* from time to time this year and last:

THE SUPPLY OF HERBS.

The Prussian Minister of Commerce has drawn the attention of the educational authorities and schools to the importance of the collection of indigenous pharmaceutical plants, which are neglected in time of peace because they can be obtained more cheaply from abroad. Many millions of marks are paid yearly in peace time for camomile, lime-tree blossoms, elder blossoms, narcotic herbs, and many less important flowers, herbs, and roots. As there is now a deficiency of camomile and other herbs from Austria-Hungary, chemists and teachers are invited to give advice as to collecting, drying, and preparing herbs for use, and, on the other hand, their collection by school children is recommended. Such herbs and simples were collected last year, but the result was unsatisfactory owing to insufficient knowledge of the right way to treat them. As coffee, tea, and cocoa have become scarce, the collection of "substitutes," such as brambleberry leaves, strawberry leaves, nut leaves, lime-tree flowers, and elder flowers, is of increased importance. The planting is also recommended of certain roots, caraway, aniseed, marjoram, angelica, lovage, peppermint, bal-mint, marshmallow, and valerian.—*The Times*, July 15.

WORTHLESS FOOD FAKES.

Food substitutes which a year ago were confidently expected to prove the salvation of the German people have for some time fallen into disrepute, though the bulk of the advertisements appearing in the papers come from the vendors of these articles. For some long time the papers have worked honestly at exposing the fraudulent who have tried to foist on the public such things as bread made of sawdust, but now even the chemical substitutes invented by German scientists in all good faith have been found to be, if not actually injurious, at the best very unsatisfactory. Professor Thoms, the greatest of living German experts on dietetics, in the course of lectures delivered at the Berlin Institute of Pharmacy, said that he regretted to have to confess that his experiments with these substitutes had led to results that compelled him to warn the people against them. "It has proved absolutely impossible," he said, "to find a satisfactory substitute for olive oil, and our attempts to extract oil from birch trees and from glue have failed. In the same way I cannot recommend the use of artificial eggs, in the form of so-called egg-powders or any other form. While most of them are harmless, their food value is more than doubtful."—*Sunday Times*, July 16.

It is curious to note that Germany has been depending upon Austria-Hungary for some things, and *vice versa*. It must be recognised that the drug scarcity which we feel is a war condition that now afflicts the world, and each country must itself remedy the deficiencies that it suffers. We have depended too much upon countries which are now our enemies. Dr. Thoms's lecture was reported in the *C. & D.* some time ago, but the remarks quoted are new. We observe that the Professor has been appointed by the shareholders of the J. D. Riedel company in Berlin to succeed Professor Kraemer on the council of the company, and the Ministry has allowed him to accept the position.

BISMUTH-PASTE.—There is no advantage in substituting subcarbonate for the subnitrate of bismuth, in making this paste, to avoid bismuth-intoxication. Either preparation is liable to produce this complication if used carelessly.—*E. G. Beck* (Chicago).

Heart-tonics :

A Retrospective Study of their Physiological Standardisation.

By E. Hercod, Pharmacien.

(Supplement to an article which appeared in the "C. & D." Winter Issue, January 29, 1916, p. 47.)

PART II.

IT is not surprising that, in view of the variability in action of the two principal heart-tonics of which we dispose in therapeutics, scientists should have soon tried to find a rational method for establishing the pharmacodynamic coefficient of digitalis and strophanthus. Houghton was the first in 1898 to publish a method of standardisation based on the minimum lethal dose for the frog. He formulates the standard of the analysed preparation in heart-ionic units according to the equation

$$\frac{1}{d.m. \times 10} = x \text{ H.T.U.},$$

d.m. being the minimum lethal dose for 1 gram frog. In other words, if this dose is 0.00016, the standard of the preparation will be

$$\frac{1}{0.00016 \times 10} = 625 \text{ H.T.U.}$$

Four years later Fraenkel, Ziegenbein, and Wolf touched upon the same question quite independently of one another, and also concluded in favour of testing digitalis on the frog. In 1908 Gottlieb published the details of a method based on the same principle. In 1903 Focke proposed to establish the value (*V*) of digitalis according to the weight (*p.*) of the test frogs, the dose (*d.*) of the injected preparation and the time (*t.*) which elapses between the injection and the stoppage of the heart in systole—in other words, according to the formula

$$V = \frac{p}{d.t.}$$

The methods prescribed by the first four authors are similar in that they are based on the "minimum lethal dose" for the frog. Their main difference lies in the time-limit, Ziegenbein taking two hours, Fraenkel one hour, Gottlieb successively thirty, forty-five, and then sixty minutes, Houghton twelve hours. Focke's method, on the other hand, is based on a different principle, which is "the time" necessary for an average dose to kill the frog in nine to eleven minutes.

For the digitalis test Focke infuses 2 grams of powdered leaves in 24 c.c. of boiling water, adding eight drops of CO_2Na_2 solution at 5 per cent. He places the bottle containing this mixture into water which is kept boiling for thirty minutes; he strains it through a cloth, expresses the powder, and completes the volume of the liquid to 20 c.c. with water. This infusion must be kept in a dark place, and used a few hours after preparation.

After having exposed the hearts of a series of frogs, Focke injects into the lymph-sacs of the upper thighs a dose equal to $\frac{1}{10}$ of their weight, and he counts the time which elapses between the injection of the preparation and the stopping of the heart in systole; this time must be from nine to eleven minutes.

Gottlieb and Schmiedeberg criticise this latter method, because the time which Focke allows for the medicament to act is too short to admit of a distinction between the period of the absorption and the period of action of the medicament. In other words, one can compare Focke's method with an acute poisoning, that of Houghton with a chronic illness, which develops its physiological symptoms in a gradual and progressive manner until death ensues. Moreover, as Gottlieb remarks, the manifestation of toxic phenomena on the heart of the frog depends both on the rapidity of the absorption of the liquid injected into the lymphatic sac, and on the length of the period during which the product acts once it has penetrated into the circulation. The twelve-hour method of Houghton allows wider limits to those factors than that of Focke.

The results of the test vary, according to whether one uses *Rana temporaria* or *Rana aescul.*; as a matter of fact,

Focke considers the latter useless, as with this subject the heart often stops in a state of partial systole, without one knowing whether it will be completed or not; this phenomenon, which complicates the establishing of the results, practically never occurs when working with the *Rana temporaria*.

The uniformity of the results also depends on the sex of the frogs, on the temperature at which the test is carried out, and, finally, on the time which elapses between the moment when they are collected and the moment when they are used for testing. Focke lays down the following rules in this connection:

One should only use frogs (*Rana temporaria*) which have been at least three days in captivity; in summer the frogs should be used at the latest three weeks after they have been collected, while those collected in September can be used during the whole of the winter. From May to October one can use animals of either sex weighing from 18 to 35 grams; in the winter, on the other hand, only males should be used. Finally, the uniformity of the results depends not only on the dose of poison injected, but on the volume of the liquid in which this dose is dissolved. Ginzberg and Hohlberg have, in fact, shown that if one injects into frogs an identical dose of 0.000005 of gratus-strophanthin per gram animal, the test will give different results according to whether this dose is administered in a 1:3,000, 1:4,000, or 1:5,000 solution.

Cats have also been used as testing animals, the preparation being administered through the stomach. Focke, however, points out that the absorption of digitoxin does not take place in the stomach of the cat, but only in the small intestine, so that there remains no trace in the large intestine. Moreover, if in the small intestine the circulation of the portal vein is slackened by vaso-constriction of same, the absorption of the digitoxin, if not prevented, is at least delayed. This method is therefore open to two causes of error, depending firstly on the duration of the period of absorption—in other words, on the time during which the preparation remains in the stomach before passing into the intestine—and, secondly, on the state of the circulation in the portal vein.

Schmiedeberg and Straub have proposed a more complicated method, which consists in testing the digitalis, not on the whole frog, but on the isolated heart of the frog, through which one carries out artificial circulation with a Ringer's solution containing the preparation to be tested.

In order to establish the value of digitalis-leaves authors have used up to now as "standard" the digitalis-leaf itself, taking a batch which has been previously standardised and consequently possessing a known value, to which one has only to adjust the preparation to be tested. However, this "standard" is not immutable, as, in consequence of different factors, it can lose in activity. In order to perfect the method it was therefore necessary to seek an absolutely constant standard, and investigators resorted in the first place to digitoxin. Now, this glucoside proved unsuitable by reason of its almost complete insolubility in water, and because, moreover, it cannot be injected into the test-animals in every desired dilution. Focke then had recourse to gitalin, a new glucoside isolated by Kraft, which has the advantage of being very soluble in water. Ginzberg and Hohlberg have used, according to the circumstances, a solution of sulphate of erythropheine at 1:1,200 or of gratus-strophanthin at 1:50,000.

As we have seen, physiological standardisation presents numerous technical difficulties, and is much more complicated than the fairly simple theory of the method would lead us to believe. In these circumstances, it is not surprising that it only gives precise results when carried out by thoroughly trained experts; consequently, even supposing that the Pharmacopœias of the future were officially to recognise physiological standardisation, it is probable that this method will remain confined to a limited number of first-class firms of manufacturing chemists with a technical and scientific staff thoroughly familiar with the subject.

Military Tribunals' Decisions.

The following are further cases which have been heard since our last issue:

BERMONDSEY.—Matthews & Wilson, Ltd., manufacturing chemists, of Mill Street, S.E., obtained three months' exemption for a granulator engaged in the manufacture of medicinal tablets.—Brandram Bros. & Co., Ltd., saltpetre and brimstone refiners, 16 Philpot Lane, E.C., and Rotherhithe, obtained conditional exemption for a workman who has been in charge of a sulphur retort for six years.—J. & E. Atkinson, Ltd., perfumers, Eonia Works, Southwark Park Road, S.E., were granted three months' conditional exemption for an employe in sole charge of the boilers, who was also their electrical engineer.

BEXHILL-ON-SEA.—Conditional exemption was granted to Mr. W. E. Scholefield, chemist and druggist, St. Leonards Road.—Mr. E. T. Hayball, chemist and druggist, with the Lion Drug-stores, was granted conditional exemption.—Mr. R. W. Robbins, chemist and druggist, St. Leonards Road, was granted absolute exemption.

CAMBRIDGE.—Mr. Gordon N. Pain, Ph.C., who had been refused exemption by the local Tribunal, was, on July 19, granted three months' exemption by the County Appeal Tribunal.

CATERHAM.—Exemption was refused to William Burkin, assistant to Mr. D. Davies, chemist and druggist, but an appeal has been entered.

CHELMSFORD.—Mr. T. L. Nicholl, chemist and druggist, was exempted on condition that he joins a Volunteer Aid Detachment.

EXMOUTH.—Mr. E. J. Challenger, Ph.C., The Rolle Pharmacy, has been granted exemption.

GRANGE-OVER-SANDS.—The North Lonsdale Appeal Tribunal refused the further appeal for exemption of Mr. G. H. Hankinson, chemist and druggist, who had been granted until July 31.

HACKNEY.—An appeal by the military authorities against the grant of a certificate of exemption to C. P. Wells, a chemist's assistant, was dismissed. Some argument took place as to the qualification of a dispenser under the National Insurance Act, Mr. G. A. Potter, of the Pharmaceutical Committee, being a witness.

HIPPERHOLME.—Mr. Herbert Smith, chemist and druggist and optician, was granted conditional exemption, and is required to spend part of his time in munition-work.

HONITON.—Six months' exemption was granted to Mr. N. C. Haynes, assistant to his invalid father, Mr. Edward Haynes, chemist and druggist.

HORLEY.—Mr. A. Moss, assistant with Mr. George Crawford, chemist and druggist, has been exempted until October 1.

KENDAL.—Conditional exemption was given to Mr. Thos. Halhead, assistant with Mr. Alfred Heap, chemist and druggist.

KENILWORTH.—Mr. Ernest Smith, chemist and druggist, Warwick Road, was conditionally exempted.

LAMBETH.—A month's exemption was granted to Mr. F. C. Aiton, assistant dispenser at the Royal Waterloo Hospital for Women and Children.—Conditional exemption was granted to the laboratory steward of St. Thomas's Hospital, who prepares bacteriological cultures and is indispensable.

LONDON (CITY).—Mr. W. Smith, with J. Macfarlan & Co., manufacturing chemists, Moor Lane, E.C., was granted three months' exemption.

PEMBROKE.—Mr. D. T. G. Jenkins, chemist and druggist, Queen Street, was granted conditional exemption, as was also F. L. J. Tucker, chemist's apprentice.

PONTEFRAC.—Mr. H. A. Brough, assistant to Mr. A. Collins, chemist and druggist, was granted conditional exemption "on medical grounds."

ROCHDALE.—Exemption until October 31 was granted to Mr. S. Hebelin, with Mr. W. Highley, chemist and druggist, and until September 30 to Mr. S. H. Cheetham, of Cheethams, Ltd.

ROMSEY.—Conditional exemption was granted to the assistant of Mr. Frank Oram, Ph.C.

RYDE.—Conditional exemption was given to Mr. W. W. Burr, chemist and druggist, The High Street Pharmacy.

ST. ALBANS.—Conditional exemption was granted to Mr. E. H. Greening, chemist and druggist, with Ekins & Fisher, 145 Victoria Street.

SHAW.—Exemption until October 1 was granted to Mr. Charles Leicester, dispenser with J. & J. Thompson & Co., Ltd.

SHEFFIELD.—Mr. Bernard Ellis, chemist and druggist, Ecclesall Road, was exempted until July 31.

SOUTHWARK.—Conditional exemption was granted to a foreman with Thomas Bigg, Ltd., sheep-dip manufacturers,

Great Dover Street, S.E.—Powell & Barstow, Ltd., surgical-instrument makers, 246a Borough High Street, S.E., were granted conditional exemption for a surgical-instrument maker.

STAPLEFORD.—Mr. C. E. Bell, chemist and druggist, and Mr. D. W. Naylor, chemist and druggist, his assistant, were each granted three months' exemption.

STRATFORD-ON-AVON.—Mr. J. G. Dance, chemist and druggist, Bridge Street, was exempted from military service.

TODMORDEN.—Mr. Leonard G. Ogden, proprietor of a drug-store at Clough, Walsden, who said he is entitled to dispense doctors' prescriptions, was granted conditional exemption.

TUNBRIDGE WELLS.—Mr. A. S. Smyth, chemist and druggist, was conditionally exempted.

UTTOXETER.—Exemption until his nineteenth birthday was granted to W. L. Hassall, chemist's apprentice.

WALTON-ON-THAMES.—Conditional exemption was granted to Mr. A. Todd, chemist and druggist, manager for the Timothy White Co., Ltd.

WANDSWORTH.—A month's exemption was granted to Mr. R. G. Davies, dispenser, employed by Boots Ltd.

WATFORD.—Conditional exemption was granted to Mr. D. W. E. Barker, chemist and druggist.—An application by Mr. J. L. Horne, chemist's assistant, was withdrawn on condition that he is not called up until July 20.

WELWYN.—Mr. E. P. Downing, chemist and druggist, was granted conditional exemption.

WESTON-SUPER-MARE.—Mr. R. A. Tranent, chemist and druggist, manager for Lewis Wing, Ltd., was granted conditional exemption, but exemption was refused to G. L. Hutt, apprenticed with Mr. A. Sercombe Griffin, chemist and druggist.—Mr. Alexander Bonnor, chemist and druggist, director of Lewis Wing, Ltd., was granted conditional exemption.

WOKING.—Mr. J. T. Littleboy, with Squire & Co., appealed for an extension of the three months' exemption previously granted, but this was refused.

Society of Chemical Industry.

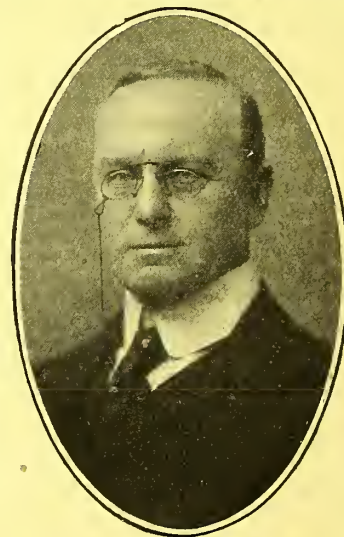
LAST week we reported the proceedings at the annual meeting at Edinburgh up to Wednesday evening. On Thursday the annual meeting was continued, Dr. Charles Carpenter (the President) being in the chair. The business was a continuation of the Congress, which embodied papers on arranged subjects and discussion of them.

THE MANUFACTURE OF DYES.

Mr. C. M. Whittaker, of British Dyes, Ltd., read the first paper, which dealt with the difficulties the company

is encountering in enlarging its premises and scope of manufacture. These are due to scarcity of labour, rise in the cost of raw materials, use of essential materials for National Defence purposes, and supply of dyes to the Government for Army and Navy equipment. The shortage of acid in this country is in course of being rectified, and there is no after-effect of the war which might be prophesied with more certainty than that there will be an abundant supply of acids in peacetime. Plant for the manufacture of colour on a scale never hitherto attempted in Great

Britain is being erected as fast as is humanly possible. Research is also being organised on a scale hitherto not attempted. The Germans have organised their colour-industry into a huge combination, with eleven million pounds capital, to fight the British efforts, which at first they treated with contempt. On what lines the Germans will be allowed to compete the future will decide.



DR. C. C. CARPENTER.

FINE-CHEMICAL MANUFACTURE.

Then followed the series of papers on the manufacture of fine chemicals by Mr. D. B. Dott, Messrs. Hill and Morson, and Mr. Carr. These are printed on pages 777 and 778.

The Chairman remarked on the note of warning in each of the three papers calling attention to the great importance to this country of building-up the chemical-industry in the same way as the engineering-industry has been built up.

Mr. T. Tyrer said there is not a statement in any of the papers which could be controverted, and all the papers emphasised the necessity of co-operation. There is need for pressure of a discursive kind, but pressure of an acute, pointed, and confidential character with Government Departments. Government officials, when one meets them over a cup of tea or at dinner, are full of sympathy, but when they are approached in an official capacity his experience is that a more hidebound set of gentlemen does not exist. He referred to the strong fight he had had with the Government Department on the question connected with the object of obtaining the abolition of the restrictions on alcohol for manufacturing-purposes, and the investigations that had taken place at the bidding of officials. He pointed out the absurdity of following out these investigations without something practical resulting. He maintained that methyl alcohol is a poison, and, that being so, the duty should be taken off it.

Dr. Armstrong, jun., emphasised the need of co-operation among those supplying chemicals. Unless they are prepared to work together and pool their interests, the future is very dubious. One of the main planks in the Society's programme next year should be to fight the alcohol question. They must bring home to the authorities that it really is a matter of essential importance to chemical-manufacturers. They would all have to deal with the Government authorities during the next few months and be very straight with them and tell them the truth about these things and insist on having duty-free alcohol.

Professor Armstrong said that they ought to be able to settle this matter themselves by co-operation. There is no evidence that methyl alcohol is a poison, any more than that ethyl alcohol is a poison.

Mr. J. Rutherford Hill, referring to the toxic properties of methyl alcohol, said that some years ago a special research on that point was carried out by a pharmacologist, and he found that methyl alcohol has the same kind of toxic action as ethyl alcohol. They are both narcotic, but the methyl alcohol is something like three times as toxic as ethyl alcohol. There are two things that prevented a supply of a cheap alcohol in this country. The first was that it is a source of revenue to the State, and the second its excessive use as a beverage, leading to all kinds of restrictive legislation. These prevent alcohol being considered on its merits. With regard to Mr. Dott's paper on alkaloids Mr. Hill said a great deal of absurd nonsense had been spoken about the cultivation of medicinal plants in Britain. He advises all those who have spoken about this matter without exception to give up the idea and look in a more fruitful direction. There can be no hope of a remunerative result from the cultivation of medicinal plants. They must not limit their conception of co-operation to the United Kingdom, but extend it to the whole of the British Empire. In India there is such varied soil, elevation, and climate that they can grow to great advantage many cultivable plants indigenous to this country as well as Germany.

The authors of the papers were accorded votes of thanks. At the close of the Congress the President proposed the following resolution:

"That the Council, in view of the great importance of alcohol in developing chemical manufactures, be empowered to take such steps as might be necessary to obtain relief from present restrictions."

The resolution was unanimously adopted.

PATENT-LAW REVISION.

Mr. J. W. Gordon, K.C., read a paper on "The Overhauling of our Patent Laws," the conclusion being as follows: Our patent laws could be easily reduced to an extremely simple form, in which the patent grant might be expected to produce a maximum of public advantage, by reducing the grant to a qualified monopoly which would in all cases confer upon the patentee the right to grant licences, but only in exceptional cases the right to restrain by an injunction the use of the invention. This reform is urgent, and if carried out it might be accompanied by a repeal of the intricate legislation and vexatious penalties of the last Patent Act. The patentee would then be in this position, that by promoting the use of his invention he would be turning his patent-right to value, whereas he could derive

no profit from it by suppressing the use of the invention within the realm. When that is his position the patentee will no longer be able to do us mischief, while the power for good will remain intact. When once that position is reached we need not trouble any more about penalising patentees. They will be the servants, and not the masters, of the public.

This was followed by a paper by Mr. W. P. Thompson on "The Disadvantages of the Present Patent Law." The following are the matters dealt with and the remedies suggested: (1) The annual fees—these should be reduced to 1/4 a year; (2) the cost of patent actions—to be reduced by arbitration courts; (3) assessing costs and damages—simpler method required, such as payment of value of the infringing articles; (4) provisional protection—to be abolished; (5) compulsory licences—a system similar to that adopted in Sweden and Canada; (6) duration of patent—to be extended to twenty years.

Dr. Ree said a patent is granted to an inventor not only for his benefit but for the benefit of the State. Compulsory working of patents, which he advocated, would force foreign firms to start manufacture in this country, and it would mean the employment of labour in a large way. If we adhere or return to compulsory licences we are merely going to get a specification in which the invention is described. Those who have had experience of patent-specifications, particularly dealing with dyestuffs and chemicals, realised that there is something radically wrong with the way the specifications are drawn up. He knew of one large German firm which employs the greatest skill in its own country as well as in this country to draw up its specification so that the most expert men in this country are unable to carry out the invention owing to the disguise.

Professor Armstrong said it is well known that German manufacturers have long ceased to bring actions for patent infringement against one another. They realised that they had better pool their forces and compete against other people. The question is whether manufacturers here should not combine and take up a similar attitude.

A paper on "The Progress of British Rare-earth Industry During the War," by Mr. S. J. Johnstone, was taken as read, but Professor Louis made some remarks regarding the control which the Germans obtained over the mineral resources of India, from which they have been dislodged for ever.

Votes of thanks were given to the President and the Local Committee for the arrangements made for the meeting.

On July 21 various works in the district were visited.



THREE PAST PRESIDENTS.

When the 1912 annual meeting of the Society was held in New York, on the occasion of the eightieth meeting of the International Congress of Applied Chemistry, a photograph of three past Presidents of the Society was taken and reproduced in the *C. & D.*, September 21, 1912. It shows Sir William Ramsay (1903-4) on the extreme left, Dr. W. H. Nichols (1904-5) to the right, and Dr. Rudolf Messel (1911-12) in the centre. We reproduce this photograph as it is the latest portrait of Sir William Ramsay, besides being an exceptional group of special interest at the moment (see p. 816).

"BACK TO THE CHEMIST'S SHOP" is the title of a paper, by Associate-Professor C. F. Nelson, in the "Am. Jo. Pharm.," p. 246. He says there is something eminently proper, dignified, and altogether fitting in calling a drug-store by its English title—the chemist's shop. That is precisely what it should be, but, sadly enough, in America to-day seldom is.



SUMMER SUPPLEMENTS

NOTES ON INSETS (CIRCULARS & PRICE LISTS) IN THIS ISSUE



ONE of the most striking characteristics of this Summer Issue of *THE CHEMIST AND DRUGGIST* is that the number of circulars and price-lists entrusted to us for distribution as insets has not diminished. We mention this as excellent evidence of the value of *C. & D.* Insets as a means of submitting business propositions to thousands of buyers at home and abroad. It is many years since this method of advertising was introduced as a semi-annual occasion in *THE CHEMIST AND DRUGGIST*, but at no other period than the present have the difficulties of production been so great as they are now. We refer to the restriction laid down by the President of the Board of Trade as regards the use of paper in periodical publications. All the regulations laid down by the Board have been conformed to strictly, yet the difficulties referred to have been overcome, and our readers have submitted to them an excellent series of illustrated Insets which place them in practically the same position as they would be were a traveller to call upon them and submit samples of the goods. This is one of the purposes of the Insets, or, in other words, to help trade. We now ask all readers to examine the Insets carefully, turning to the pages indicated in each of the following paragraphs for the location of the matter. We have already stated that such Insets are inserted in *THE CHEMIST AND DRUGGIST* twice a year only. The next occasion will be Saturday, January 27, 1917, and, in accordance with our experience, we suggest that business houses should give the matter immediate thought and communicate with the Publisher of *THE CHEMIST AND DRUGGIST*, who will be pleased to advise them in the matter and give the fullest possible particulars in regard to the designing and production of such Insets.

Allen & Hanburys, Ltd.,

London, insert a coloured and illustrated inset dealing with the manufacture of extract of mals and its combination with cod-liver oil, the apparatus being associated with facsimile representations of the eight distinct kinds of packages in which the preparations are put up for retail sale. Non-labile packed drugs and pharmaceuticals are the subject of a second page, wherein the analytical laboratory is combined with the packing department, and particulars are given of nine distinct preparations, packets of which are also shown. An exceedingly interesting page is devoted to cod-liver oil, castor oil, and eucalyptus oil, views of the Norway fishing ground and of Allen & Hanburys' cod-liver oil factory in Norway being given. The descriptive word "Allenburys" is associated with jujubes and pastilles made by the company, and it will be noticed that they grow their own currants on the ground at Ware Mills, where also the fresh material is used in making the pastilles, as we can testify from personal experience. (Pp. 32-53.)

Baiss Bros. & Stevenson, Ltd.,

Grange Road, Bermondsey, London, S.E., devote their inset to an exterior view of their premises and illustrations of interior parts. They invite the home trade to note that they publish three price-lists: (1) Drugs, chemicals, chemists' packed goods, etc.; (2) surgical instruments, hospital furniture, druggists' sundries, etc.; and (3) pharmaceutical preparations, etc. They also have special lists for export trade in languages appropriate to the country in which the business is carried on, and these lists are devoted to (1) drugs, chemicals, and pharmaceutical preparations; (2) essential oil and fruit essences; and (3) surgical instruments and hospital furniture, etc. (Pp. 32-33.)

H. Bronnley & Co., Ltd.,

Acton Vale, London, W., have a two-page inset, the front of which is devoted to Bronnley's soaps, emphasis being laid on the fact that the value is not in the get-up, but in the quality of the soap itself, many of the tablets being unwrapped and simply packed in a plain box. Bath-tablets perfumed with verbena, lavender, rose, santal, violet, wallflower, and the familiar "Bathodomes" in similar odours are also featured. The reverse of the inset deals with Ess Viotto and Courvoisier's perfumes, including Omar Khayyam, all of which favourites are well advertised. (Pp. 123-129.)

William Browning & Co.,

manufacturing and export chemists, 4 Lambeth Palace Road, London, S.E., insert a two-page quarto circular in blue and red colours, devoted to Russian liquid paraffin. The design shows the apparatus necessary for proving the suitability of liquid paraffin for internal administration. In the foreground is a Redwood's viscometer for testing the fluidity of such bodies. In the background is a Westphal balance, with the water-bath, etc., required in the other B.P. tests. The inset emphasises the extreme purity of the liquid paraffin made in Britain. On the reverse side of the inset is a solicitation to the retailer to stock "Carmex," the new preparation for infants' ailments. (Pp. 64-65.)

W. J. Bush & Co., Ltd.,

Ash Grove, Hackney, London, N.E., were pioneers in the production of essences for aerated waters, and, although the business has become one of the largest in the world as to essential oils and other effervescing products, they retain and have expanded the original ideas. The inset which they insert in this issue is devoted to Sol. Lemon No. 1 "Bush," and nothing, it will be agreed, could be more effective than the four lemons with the background, a blue design, recalling Italian conditions. The company are also the makers of essences for lime-juice and soda, dry ginger-ale, and stone ginger-beer. (Pp. 32-33.)

Butler & Tanner,

Selwood Works, Frome, in a two-page coloured inset indicate how they can assist advertisers to capture German foreign trade. The firm have specialised for many years in publicity literature in all languages, and are equipped with up-to-date machinery for producing catalogues, pamphlets, circulars, etc., in black or colours. They lay stress on the fact that literature should be printed in the language of the country to which it appeals, and also that the prices, weights, measures, etc., which are used in that country should be correctly specified; for this purpose a large staff of expert linguists is at the disposal of the firm's clients. (Pp. 123-129.)

Carnegie Brothers,

227-229 Essex Road, London, N., show on the first page of their inset the new premises at the above address, to which they have recently removed. The firm are wholesale and export dealers in surgical dressings, including absorbent gauzes, bandages, jaconets, sheeting, and the like. Drugs and chemicals are also a special part of the firm's business, and we observe that they specify forty-six of the chemicals that they supply. These include acetanilide, acetylsalicylic acid, atropine, bromides, chloroform, mercurials, phenacetin, santolin, and other products regularly in use. The firm state that every care is exercised in the handling of the goods. (Pp. 64-65.)

Clayton & Jowett, Ltd.,

Liverpool, are manufacturers of essences and other products required in the production of aerated beverages, and devote their inset, which is charmingly illustrated with a bunch of lemons reproduced in natural colours, to M. P. Messina's perfected soluble essence of lemon and triple concentrated Savonine, which produces an excellent heading for aerated waters that require it, as well as for brewed ginger-beer and all classes of fermented drinks. It will be noted that "Gold Seal" brand is characteristic of the firm's productions. The managing director is Mr. J. W. Clayton, Ph.C., F.C.S., who thus combines with knowledge of beverage requirements the special experience of a pharmacist. (In Colonial and Foreign copies only.)

Jules Denoual & Co.,

Carlton Works, London, S.E., insert a current price-list of the goods that they manufacture. These include pastilles and jujubes in bulk by the pound, or ready packed in tasteful manner. Confectionery, such as formalin throat-tablets, liquorice globules and cushions, acidulated drops and tablets, pine-tree lozenges, and allied products, are listed and illustrated on page 3, while the two pages following are devoted to the J. D. brand of

capsules and perles, including those which are so popular that the manufacturers have placed them on the P.A.T.A. list. An epitome of the Denoual price-list of medicated lozenges and floral cachous is next given, and the firm's agencies are exemplified by the Claude Raynaud & Cie. list of perfumes and essential oils, and the Tasmanian Eucalyptus Oil Co.'s products, including oil, inhalers, ointment, and Tasmanian eucalyptus and menthol tablets. It will also be noted that compressed tablets are a special feature of the Denoual business, and they also supply glycerin suppositories as well as various forms of tins for capsules and pastilles. (Inserted loose.)

Eichiro Insecticide Producing and Manufacturing Co.,

Minoshima, Wakayama-ken, Japan, give particulars in a two-page circular of Muhak and Ka-Killer, the Japanese insecticides. The firm claim to be the first to plant insect-flowers in Japan, and by careful cultivation they have succeeded in producing an effective insect-destroyer of guaranteed genuine quality. Since the elimination of Dalmatian insect flowers and powder from the principal consuming markets large exports have been made to Europe and the United States from Japan, and the trade is likely to be a permanent one. Ratcliffe, Dunbar & Co., 36 Gracechurch Street, London, E.C., are agents for the firm; from them samples, prices, and terms can be obtained. (Pp. 64-65.)

R. W. Greeff & Co.,

Thames House, Queen Street Place, London, E.C., indicate a number of important pharmaceutical and photographic products for which they are exceptionally well placed. These products are manufactured in the United Kingdom, Allied and neutral countries, and are offered at consistently low prices in wholesale quantities only. As showing the sources from which these chemicals are mainly drawn, the inset is bordered with a series of vignettes with bird's-eye illustrations of London, Switzerland, Italy, Russia, Paris, Holland, Norway, Canada, and New York. (Pp. 32-33.)

Hillcrest Oil Co. (Bradford), Ltd.,

Clayton, Manchester, are the manufacturers of "Silvercrest" lanolines. When the war broke out two years ago it was soon realised that lanoline would be scarce, because although it had been produced in several places in this country, this had stopped, and in due course the shortness came; but, thanks to the Hillcrest Oil Co., the production was re-established in this country, and these makers supply both hydrous and anhydrous adeps lanae in accordance with Pharmacopoeia requirements. (Pp. 64-65.)

McKesson & Robbins,

manufacturing chemists, New York, U.S.A., insert a new price-list of the McK. & R. capsuled pills, which retain, after several decades of use, their popularity in the British Empire. The pills are ovoid and enclosed in a gelatin cover, with the result that they do not deteriorate. The inset includes a formulary of the more popular pills. S. Maw, Son & Sons, 7-12 Aldersgate Street, London, E.C., are the London agents; but it will be noted that Calox, the oxygen tooth-powder, also manufactured by McKesson & Robbins, is obtainable through the British depôt, G. B. Kent & Sons, Ltd., 75 Farringdon Road, London, E.C. We learn independently that McKesson & Robbins are starting a Calox branch in Canada, where this dentifrice is as popular as it is in the United Kingdom and the United States. (Pp. 32-33.)

Newball & Mason,

Nottingham, insert a two-page inset, the front of which bears the familiar title, "Good, it's Mason's," the soldier who makes this remark being about to quaff a glass of the famous "extract," while the soldier's girl, seated in a chair, is examining a picklehaube. On the reverse side of the inset is our old friend Farmer Jarge about to take similar refreshment. (Pp. 128-129.)

Southall Bros. & Barclay, Ltd.,

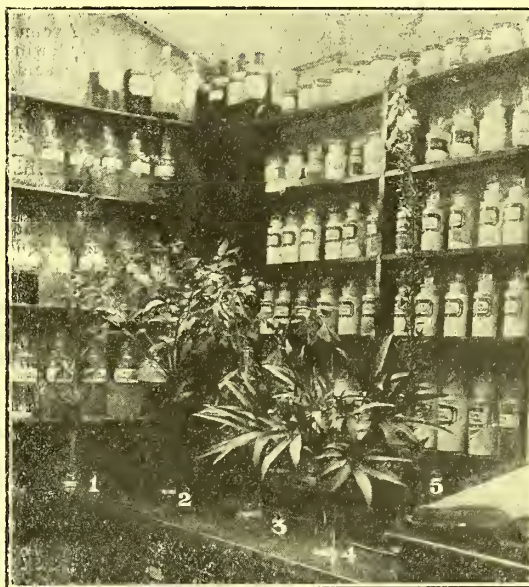
Birmingham, are well known to our readers as enterprising manufacturers and producers of perfumes. In the inset which they insert in this issue they devote themselves exclusively to their "1916" Eau de Cologne, the inset containing a facsimile in colours and gold of the label used on the bottles. Quotations for the 2-oz., 4-oz., and 8-oz. bottles are given, and it strikes us that there is an opportunity here which is well worth taking. The reverse of the inset is devoted to Southall Bros. & Barclay's "Vitafer," one of the first of British tonic foods, which has taken a name for itself and is supplied on terms that make it profitable for retailers to handle. (Pp. 64-65.)

Stevenson & Howell, Ltd.,

Southwark Street, London, S.E., insert a remarkably effective design of fruit forming a frame for their "Perfect" soluble essence of lemons. This is printed in colours, and we think it will be admitted that the combination of lemons, oranges, cherries, and strawberries is wonderfully effective, the colouring being done by the three-block process. The reverse of the inset is devoted to their concentrated essence of stone ginger-beer, which is another of Stevenson & Howell's famous products. (Pp. 65-66.)

Synfleur Scientific Laboratories,

Monticello, New York, U.S.A., are manufacturers of the Synfleur products, which are exceptionally concentrated perfumes, 1 lb. of a Synfleur product sufficing to produce 100 lb. of delicate perfume. The Synfleur inset describes these in a straightforward manner, and the fact that the laboratories have obtained many customers in Australia, Africa, and India is evidence of the efficiency of their advertising in THE CHEMIST AND DRUGGIST. It will be noted that the Laboratories ask buyers to write direct to them for their market report and the wholesale export price-list. (Pp. 32-33.)



More Medicinal Plants.

MR. G. A. TURNER, F.C.S., of Anderson & Virgo's, The Foregate, Worcester, sends us this interesting photograph of medicinal plants, which are arranged on one of the dispensing-counters. The specimens are (1) *Aconitum Napellus*, (2) *Atropa Belladonna*, (3) *Althaea officinalis*, (4) *Helleborus fatidus*, (5) *Digitalis purpurea*. Mr. Turner has grown these in his garden, and from time to time makes a display of the plants in his pharmacy with the idea of familiarising the public with them, in the hope that the cultivation and collection of medicinal plants will be encouraged. He suggests that other pharmacists should adopt the same plan, and so help in the national movement for producing in this country the most important drugs needed in medicinal treatment.

TENERIFFE COCHINEAL.—The outlook for the new crop is bright; an average crop runs from 5,000 cwt. to 6,000 cwt. per annum, and the price, owing to the large demand, has more than doubled since the beginning of the war.

"CHEMISTS' WINDOWS."—An illustrated treatise on the art of displaying pharmaceutical and allied goods in chemists' shop-windows, with chapters on ticket-writing, the mechanics of moving devices, and business-promoting accessories. Contains 216 pages and 200 illustrations. Price 3s. 6d., by post 3s. 9d., from the C. & D. Book Department, 42 Cannon Street, London, E.C., or leading wholesale houses.

Notes on Novelties

"ELLEMM" BRAND denotes the rubber goods of Leonard Morris, 7 Brazennose Road, Manchester.

VEVAX CRÊPE BANDAGES are British made. The sizes and prices are given in Mr. Reuter's advertisement.

ESSONA BRILLIANTINES, liquid and solid, are special products advertised by Essona Perfumery Co., Wimbledon.

FEATHEREDGE RUBBER SPONGES.—Markt & Co. (London), Ltd., 98-100 Clerkenwell Road, London, E.C., sell these sponges in nine sizes.

INGRAM'S WHIRLING SPRAY is fitted with Raine's patent vulcanite mount, which is so constructed that it gives two sprays in opposite directions. The spray is illustrated in Ingram's advertisement in this issue.

NEW AGENCIES.—R. Lane-Hall & Co., 4 Lloyd's Avenue, London, E.C., have been appointed agents for the following British companies: W. Everett & Co., Ltd. (salicylic acid), and W. Claus & Co., Ltd. (medicinal methylene blue).

RONOLEKE HOT-WATER BOTTLE.—The special points about these hot-water bottles are indicated and the advantages clearly shown over the old-fashioned bottles in the advertisement of the Ronoleke Co., Upper Colham Mills, Uxbridge.

AGRICULTURAL REQUIREMENTS.—Tomlinson & Hayward, Ltd., Lincoln, call attention to their sheep-dips and other requirements of agriculturists. The Eureka weed-killer and other horticultural products are also referred to, as well as various dairy preparations.

WRIGHT'S COAL-TAR SOAP.—The first series of the window-display competitions in connection with Wright's coal-tar soap ended on June 30. The results are declared in the advertisement in this issue of Wright, Layman & Umney, Ltd., Southwark, London, S.E.

HOOKE'S MALTED MILK is a concentrated milk-food made by Thew, Hooker & Gilbey, Ltd., Birmingham. The trade terms can be had on application. It is stated in the company's advertisement in this issue that the profit allowed for the retailer is large.

CRUDE DRUGS.—J. W. Drysdale & Sons, 16 Fish Street Hill, London, E.C., are importers and exporters of drugs, fine chemicals, synthetics, etc., and are particularly well placed for opium, morphine, codeine, salicylates, alkaloids, balsams, ergot, jalap, and other crude drugs.

WINDOW-DISPLAYS.—C. E. Fulford, Ltd., Carlton Hill, Leeds, make an allowance to chemists who make window-shows of Ven-Yusa cream. An example of how this works out is appended to the announcement of the company. Showcards and newspaper advertising back up the window-displays.

LUNCH-HOUR CLOSING.—Stafford Allen & Sons, Ltd., Cowper Street, Finsbury, London, E.C., announce that in future their offices will be closed from 12.45 to 1.45 P.M. with a view to better internal working. Personal and 'phone calls should therefore be made either before or after this hour, although, of course, urgent messages will always be received.

AN UP-TO-DATE SHOP FRONT for retail chemists is shown by Parnall & Sons, shop-modernisers, Bristol, London, etc., in their advertisement in the present issue. The design materialises aspirations that appeared to be un-realisable twenty years ago, for it shows not only a striking appearance but ample room for displaying goods in a profitable manner.

COLONIAL SYRUP OF FIGS.—This is a known, admitted, and approved remedy manufactured by Arthur H. Cox & Co., Ltd., Brighton, England, and described as "a scientific fruit laxative for constipation, biliousness, indigestion, sluggish liver," etc. It is put up in good style with a distinctive label of blue tone, the carton being in the same style, so it looks a "seller," and has the qualities that make customers come again.

TOILET-ACCESSORIES.—The advertisement in this issue of Henry C. Quelch & Co., Ludgate Square, London, E.C., occupies five pages. These are devoted to (1) Tetlow's

swan-down face-powder, (2) Bourjois' face-powders and rouges, (3) the "Icy-hot" vacuum flasks, (4) manicure sets and accessories, and (5) list of agencies and manufacturers. The pages are well worth studying by every chemist who deals in toilet-articles.

VACCINES AND TUBERCULINS.—Clement & Johnson, 19 Sicilian Avenue, London, W.C., offer vaccines and tuberculins which possess "high immunising power, high polyvalency, low toxicity, accurate dosage, great range of dosage and moderate cost," to quote their advertisement in this issue. "C. & J." new dysentery vaccine and "C. & J." tuberculin are especially mentioned: the latter effectually replaces the German product known as Koch's "T.R."

BRITISH FILTER-PAPERS.—The announcement concerning Whatman filter-papers which is made in this issue by H. Angel Reeve & Co., 15 New Bridge Street, London, E.C., is an excellent example of the way British manufacturers are tackling the question of filter-papers for analytical work. The nine varieties offered have each special filtration properties, and give a choice exceeding that of any foreign maker. There will be no need in future to import filter-papers of this class.

LAURENCE'S HAIR DYES.—These are one-solution products manufactured by C. R. Harker, Staggs & Morgan, Ltd., Devon Wharf, Emmott Street, Mile End, London, E. They are P.A.T.A. goods, and have stood the test of time well. The makers are offering special terms at present, and it will be noticed from their advertisement that they offer certain associated products, "Dermoline," a glycerin substitute, being perhaps the one that appeals to everyone in the British drug-trade at present.

"ADAPTED TO THE TIMES" may be truthfully said of the four pages inserted in this issue by Burroughs Wellcome & Co. The subjects dealt with are "Tabloid" first-aid cases for use in civil and military emergencies—Nos. 710 and 109 are specially referred to—"Tabloid" tea, and Kepler's malt extract. There is a good demand for tabloid tea, with which should be supplied tabloid saxon for sweetening-purposes, as these together form a much-appreciated method of preparing a refreshing cup of tea in the Field of War.

SOUTHALL BROS. & BARCLAY.—We have had an opportunity of testing the new "1916" eau de Cologne, and find that it is a preparation of very good odour, recalling all that is best in this old preparation. Southall Bros. & Barclay, Ltd., put it up in such a way that the retailer can earn his own reputation for it; neither the labels nor the handbills bear any name upon them. The "1916" eau de Cologne is to be placed on the P.A.T.A. list, and the price to the trade will be 10s. 6d., 19s. 6d., and 34s. per dozen, less 5 per cent. discount to account.

COLLOSOL SULPHUR.—This is prepared for Oppenheimer, Son & Co., Ltd., in the Crookes' Laboratories, London. It is a chemico-physiological means for supplying the body with an element essential to it. In many cases of rheumatism relief is very rapidly obtained by the internal administration of Collosol Sulphur, and even in arthritis deformans considerable relief has been obtained. Treatment has to be continued in long-standing cases for three months or longer. It is supplied by Messrs. Oppenheimer in 4-oz. bottles at 2s. 6d., or 16-oz. bottles at 9s. each.

SANAGEN.—Casein, Ltd., Culvert Works, Battersea, London, S.W., are conducting an extensive advertising campaign in the Press regarding sanagen food. A specimen of the advertisements which are being placed before the public is given in this issue, and it will be seen that the appeal is made in vigorous and direct terms which are likely to impress the "man in the street." "Free from every taint of Germanism" is urged as one very good reason why sanagen should be used, but from the analytical results it will be seen that intrinsic merit is also possessed by sanagen.

SUMMER LINES.—The pages in this issue devoted to the specialities of Arthur H. Cox & Co., Ltd., Brighton, include

among the goods advertised several which are specially adapted for summer sale. The junket tablets can be most appropriately shown now. For soldiers in the trenches "The Soldier's Trench Powder" is still a live line, and newspaper correspondents mention that the German trenches taken by our Forces are swarming with lice.

ELECTRIC LAMPS.—A special trade list of electric pocket-lamps and torches has been issued by Ward & Goldstone, electrical engineers, Sampson Works, Salford, Manchester. In view of the winter season which will soon be upon us, the list can be usefully consulted by chemists who sell electrical goods, as there are many good-selling lines mentioned. Instruments for electro-medical apparatus, electric massage, and hot and cold air douches are included in the list. We have also received particulars of the Gnita electric gas-lighter and hand lamp. The combination is particularly useful as the lamp can be used for lighting one's way in a dark room when going to light the gas. The principle of ignition is the same as is involved in motors, an ignition-coil and dry battery being used. The list-price of the Gnita lighter is 18s.

TRENCH COMFORTS.—Duncan, Flockhart & Co., Holyrood Road, Edinburgh, have placed on the market several seasonal products, including the Army Anti-Parasitic Powder, which is a modification of the N.I.C. powder as recommended by recent investigations carried out under the instructions of the War Office. The powder is packed in 2-oz. dredger tins, and may be liberally dusted on to the clothes and body several times a week, this being a distinct advantage compared with the ointment form of application, which has been condemned. As it is non-poisonous it can be sold by unqualified assistants, a matter of great importance at the present time. Antiseptic foot-powder of a non-gritty character is another preparation put up by the firm in 2-oz. dredger tins. We understand that Duncan's Anti-thirst Tablets put up in screw-capped bottles have had an enormous sale, and an increased demand is expected; they are an excellent sixpenny line. The quality of these products is of the highest, and they are well adapted for carrying in the kit-bag or haversack, they having been designed with this view.

LLOYD'S SPECIALITIES.—We have had the opportunity of examining the trench pillows that are offered by Lloyd's, wholesale druggists and chemists' sundriesmen, 60 Tennyson Road, Small Heath, Birmingham, which are illustrated in an advertisement of theirs in this Summer Issue. The pillow is a good one, perfectly air-tight, and just the thing that many travellers, as well as men in the trenches, want. It retails at 1s. 6d., and costs the retailer 10s. 6d. per dozen, but the man who can buy a larger number not only gets reduced prices but has the opportunity of making more sales. "Cupotea" is another Lloyd's speciality. This is a mixture of tea, sugar, and dried milk, in oblong form, the tablet crushing easily between the fingers into a tea-cup, and on pouring boiling water upon this a cup of excellent tea is quickly obtained. A box of six tablets retails at 6d., and costs 4s. 6d. to 4s. 9d. per dozen. It is a good line. Lloyd's also send us specimens of their "Monthly Jottings," a good monthly sheet, which they produce in co-operation with retailers. A sample of it will be sent by them to any retailer on application.

MONOMET DEVELOPERS.—The White Band Manufacturing Co., Ltd., Progress Works, South Croydon, send us samples of packet developers in which Monomet is the principal ingredient. The packets are monomet, monomet-quinol, and monomet-pyrol, the contents of each packet being dissolved in from 5 to 10 oz. of water. The packets sell at 3d. each. Showcards are issued.

THIRST-QUENCHERS.—Ayrton, Saunders & Co., Ltd., Liverpool, have prepared a series of showcards for the "Caravan" thirst-quenchers and Ayrton's lemonade tablets. The thirst-quenchers are put up in 1d. and 2d. packets and in 6d. tins. These are taken *per se*, being placed on the tongue and allowed to dissolve. The lemonade tablets are larger, and are each to be added to a tumbler of water to make a sparkling beverage. These are put up in packages of six tablets and sell at 6d. In hot weather these two lines should be good sellers.



Trade-marks Applied for.

The figures in parentheses refer to the classes in which the marks are grouped, for a list of which, with particulars as to registration, see "The Chemist and Druggist Diary," 1916, p. 365.

- (From the "Trade-marks Journal," July 12, 1916.)
 Circular device with words "AXIX EYE TONIC"; for an eye lotion (3). By M. B. Bloom, 19 Golder's Green Crescent, Golder's Green, N.W. 372,752.
 "REUDEL"; for medicinal chemicals (5). By Tokalon, Ltd., 212 Great Portland Street, W. 372,916. (Associated.)
 "IGRANIC" on label device; for all goods (8). By Igranic Electric Co., Ltd., Bedford. 372,993. (Associated.)
 "VERTEX"; for scientific instruments, etc. (8 and 11). By Selfridge & Co., Ltd., 400 Oxford Street, W. 373,035/6. (Associated.)
 "RAWCO"; for scientific instruments, etc. (8), for oils (47), and for brushware (50). By H. E. Webb, 182 St. John Street, Clerkenwell, E.C. 373,410/413/414.
 "AURORA" and "CORONA"; for radiographic and x-ray screens. By H. Ledward, 56 Moorgate Street, E.C. 372,747/8.
 "PHARMAL"; for non-medicated surgical instruments, etc. (11). By Leyland and Birmingham Rubber Co., Ltd., Leyland, Lancs. 373,297.
 "SECURIC"; for a feeding-bottle holder (37). By E. Halford, 56 High Street, Naseby. 373,356.
 "MONARCH"; for photographic paper (39). By Ilford, Ltd., Ilford, E. 373,375.
 "HEDOL"; for food substances (42). By J. Thompson & Sons, Ltd., Belfast. 373,171. (Associated.)
 "CALIPER," with picture of same; for brushes (50). By F. Berry, 42A Bow Lane, E.C. 373,346.

- (From the "Trade-marks Journal," July 19, 1916.)
 "TARSOL"; for chemicals (1). By T. Howse, Ltd., Union Street, Smethwick. 372,800.
 "TANCOL"; for photographic chemicals (1). By Burroughs Wellcome & Co., Snow Hill Buildings, E.C. 373,505.
 "STRAFEM"; for insecticides, etc. (2). By J. Cofman-Nicoresti, 6 Bloomsbury Street, W.C. 372,112.
 "NON-STOP"; for all goods (2 and 3). By A. Carreras, Holly Bush, Shiplake-on-Thames. 373,112/3. (Associated.)
 "LUARGOL"; for all goods (3). By Les Etablissements Poulenc Frères, 92 Rue Veille du Temple, Paris. 373,252.
 "MAY-FLY"; for a medicine (3). By J. H. Dudgeon, 83 Falls Road, Belfast. 373,303.
 "VULCO"; for electrical dry-cells, etc. (8). By J. S. & A. Hamilton, 56 Marlborough Road, Holloway, N. 371,613.
 Device of letters "B R," and snake forming letter "S" ("B R S" disclaimed); for hypodermic syringes (11). By A. Hutchison, 15 Cavendish Place, W. 372,908.
 "PERNITROSIL"; for explosives (20). By F. E. W. Bowen, 1 Queen Victoria Street, E.C. 372,553.
 "MALTIVS"; for all goods (44). By Lawson's Mineral Waters, Ltd., 23 Anslow Street, Manchester. 373,144.
 "MORGAN'S PLUMBAGO" and device; for lubricating-plumbago (47). By the Morgan Crucible Co., Ltd., Battersea. 372,866. (Associated.)
 "NUBRIL," "ROMADOR," "BLUE LAGOON," "DALCROSE," "ARCADIE," "PERLYSIA," "VELYSIA"; for toilet and perfumery articles (48). By the Standard Tablet and Pill Co., Ltd., Hove. 372,472, 373,232/234/239/241/274/275.
 "RADINE"; for perfumery, etc. (48). By Harris, Harris & Co., 17 Hampstead Gardens, Golder's Green, N.W. 373,071.
 "SONNY"; for perfumery, etc. (48). By R. Dixon & Co., Ltd., Canal Street, Rochdale. 373,224.
 "ESTELLE"; for perfumery (48), and for feeding-bottles (50). By A. J. Willson, 25 Monument Street, E.C. 373,570/1.

CHEMISTS are sometimes called upon to solve problems which would be respectfully rejected by the late Mr. Euclid. A customer requested Mr. Eucalyptus the other day to destroy a cat. Leading questions elicited the following facts: The cat—a stray one—had taken possession of the coal-cellar; had savagely attacked one or two persons who attempted gingerly to procure a few pieces of coal; and had haughtily refused to eat some poisoned meat thrown at it. Fumes of various kinds had been introduced in vain, the cellar being too airy. "I want you," said the customer, "to put a drop of something on the brute's tongue." The chemist, however, recommended his customer to procure a machine-gun.

Westminster Wisdom.

By the "C. & D." Parliamentary Representative.

PATENTS AND THE WAR.

The Acting President of the Board of Trade has announced that the whole question as to the nature of the amendments which may be desirable in the Patents and Designs Act is now undergoing examination. Among the matters which are being examined is the position of patents which, owing to circumstances arising out of the war, the patentee has been unable to develop.

THERMIT, LTD.

In the House of Commons on July 20, Mr. Harcourt, replying to a question, said the nominal capital of Thermit, Ltd., is 50,000*l.*, the whole of which has been issued and was held by or on behalf of Germans resident in Germany (now held by the Public Trustee). The directors before the war were Karl Goldschmidt, Hans Goldschmidt, and E. Stassfurth, resident in Germany, and R. Stutz, a naturalised British subject resident in this country. Since the war the business has been managed by Mr. Stutz, subject to the supervision of a controller.

A WORD FOR THE RETAILER.

The Local Government Board have prepared a poster in the following terms which they are circulating throughout the country. It is signed by Mr. Samuel, Mr. Harcourt, and Mr. Long:

"The development of recruiting in recent months and the passing of the Military Service Acts have led to a large number of men joining the Colours, whose absence from their ordinary avocations cannot but result in some dislocation of their businesses. We feel sure that it is the universal desire that the men who are going forth to fight our country's battles shall in their civil positions suffer as little as possible for their patriotism, and we wish to appeal to the public to help to secure this object by continuing to support the shops and businesses of men who have themselves or whose assistants have joined the King's Forces, and by avoiding during the war the transfer of their patronage to other establishments."

HOSPITALS AND SPIRIT-DUTY.

In accordance with the promise which was made to Parliament some time ago, there figures, as a new service, among the recently issued Supplementary Estimates, the sum of 10,000*l.* as grants to voluntary hospitals in respect of duty on spirits. The whole question was fought out in the House of Commons recently, and among those mainly responsible for securing the measure of relief now forthcoming was Mr. W. C. Bridgeman, M.P. The sum is described as "for the payment of grants to voluntary hospitals, under a scheme to be approved by the Treasury and administered by the Local Government Boards for England, Scotland, and Ireland, in respect of their consumption of duty-paid spirits for medical and surgical purposes." This scheme is based upon the Report of the Treasury Committee presided over by Mr. J. F. Hope, M.P., and will, it is understood, be explained by Mr. McKenna when dealing with this particular estimate in the House of Commons before the Parliamentary adjournment next month.

THE SALE OF COCAINE: THE NEW REGULATIONS.

Our Parliamentary correspondent understands that the new regulations designed to control the traffic in cocaine, to which reference has already been made in the House of Commons by the Home Secretary, will be submitted for approval to the meeting of the Privy Council to be held at Buckingham Palace on Friday, July 28. Meanwhile the question, and its bearing upon the presence of large numbers of troops in this country, continues to receive a good deal of attention in Parliament, as the following questions and replies show: On Monday, July 24, Major Astor asked the Home Secretary whether cocaine can now only be sold to civilians as well as to soldiers on a doctor's certificate or prescription; whether the purchaser is obliged to give up the certificate or prescription to the vendor; and whether any record is kept of the number of certificates given by and the amount of cocaine ordered by individual doctors.

Sir Henry Craik also asked whether the attention of the right hon. gentleman had been drawn to the case of two men and a woman convicted of selling cocaine to members of his Majesty's Forces, and whether he will introduce legislation for dealing adequately with crimes so revolting and hurtful to the Army.

Mr. Herbert Samuel replied that his attention had been drawn to the case referred to. In regard to the sale of cocaine a medical prescription is not required under the present law. The maximum penalty for illicit sale is six

months' imprisonment and a fine of 100*l.* The new regulations on this subject which he announced in the House of Commons recently will be submitted, he hoped, at the next meeting of the Privy Council.

Mr. Raffan (M.P. for Leigh): Will provision be made in the new regulations for the supply of necessary quantities of cocaine to dental practitioners, both registered and unregistered?—The Home Secretary: Yes, sir; that is being provided for.

Mr. Raffan: For both registered and unregistered dental practitioners?—The Home Secretary: I must ask for notice of that.

On Tuesday Mr. Lewis Haslam (M.P. for Monmouth Boroughs) asked the President of the Board of Trade whether opiates, cocaine, and poisonous drugs are still being sold by unqualified persons to any of the Services in connection with the Army and Navy; whether such drugs are now procurable by the public without the presentation of a prescription from a qualified physician or surgeon; and, if so, will he consider the desirability, in view of the continual increase taking place in the use of such dangerous drugs, of taking such steps as may be necessary to prevent their use where not required for medical or surgical purposes.—Mr. Samuel, who replied, referred the hon. member to previous answers on the same question.

Mr. Raffan asked whether the draft regulations would be submitted to the medical and dental bodies interested in the matter, in order that they may make representations on the matter.—Mr. Samuel said the Royal College of Physicians had been consulted, but he was not sure that the dentists had. He would take that into consideration.

New Companies and Company News.

P.C. means Private Company and R.O. Registered Office.

PEPPARD AND KINGWOOD (OXON) HERB AND POULTRY FARM, LTD. (P.C.).—Capital 3,000*l.* The first directors are J. Carlisle, Mrs. C. A. Stavers, and Miss M. E. F. M. Carlisle.

CHEMICAL AND MECHANICAL PROCESSES CO., LTD. (P.C.).—Capital 1,500*l.* The first directors are H. M. Peace, F. A. Hulme, and J. Harvey. R.O., 6 Rumford Place, Liverpool.

SCIENTIFIC SAFETY-RAZOR CO., LTD. (P.C.).—Capital 1,000*l.* The first directors are C. W. Preston, A. S. Haller, and A. J. Houlton. Solicitor, F. C. Payne, Hanover House, Hull.

HENRI CLAES & CO., LTD. (P.C.).—Capital 10,000*l.* Objects: To carry on the business of baryta-grinders, manufacturers of lithopone, zinc oxide, etc. R.O., Pinners Hall, Austin Friars, E.C.

WIDNES REFINERIES, LTD. (P.C.).—Capital 20,000*l.* Objects: To carry on the business of coal and tar distillers, manufacturers of and dealers in benzol, etc. The first directors are Sir Charles John Follett, Kt., C.B., J. Atherton, A. Pereno, and S. P. Pellatt. R.O., Kingsway House, Kingsway, W.C.

A. VERNON-WARD (MANCHESTER), LTD. (P.C.).—Capital 10,000*l.* Objects: To carry on the business of electro-therapists, masseurs, dentists, manicurists, chiropodists, agents for, dealers in, or manufacturers of patent medicines and surgical, medical, or other appliances, chemists, druggists, etc. R.O., 91 King's Road, Brighton.

BRITISH PHARMACEUTICAL WORKS, LTD. (P.C.).—Capital 5,000*l.* Objects: To carry on the business of chemists, druggists, drysalers, manufacturers of and dealers in proprietary articles, etc. The first directors are Louis F. Petyt, Baron Edgar Forgeur, Hy. Bael, Victor de Weerd, and Alexandre Doreye. R.O., 351 Morland Road, Croydon.

ICKNIELD GLASSWORKS (OSLERS), LTD. (P.C.).—Capital 12,000*l.* Objects: To take over certain assets forming part of the business of glass-manufacturers carried on at Icknield Glassworks, Freeth Street, Birmingham, as "F. & C. Osler, Ltd.," and to carry on the business of manufacturers of medical, chemical, and scientific glassware. The first directors are J. A. Osler, F. G. Foster, J. T. Osler, and W. Butler. R.O., as above.

LACTINE, LTD. (P.C.).—Capital 5,000*l.* Objects: To adopt an agreement with A. E. Berry, F. M. Roberts, and R. Hill, and to carry on the business formerly carried on by the "Bow Chemical Co.," and that of manufacturers of lactic acid, manufacturing or retail chemists and druggists, dealers in salts, acids, alkalies, drugs and chemicals, etc. The first directors are A. E. Berry, F. M. Roberts, and R. Hill. Secretary, E. J. Hammond. R.O., 251 Bow Road, Bow Bridge, E.

BURGOYNE, BURBIDGES & CO., LTD. (P.C.).—Capital 280,000*l.*, in 1*l.* shares (200,000 6 per cent. preference).

Objects: To adopt an agreement with T. Farries, H. R. Arnold, and R. G. Halstead, all of 12 Coleman Street, E.C., carrying on business there and at High Street South, East Ham, as "Burgoyne, Burdighes & Co.," to develop and extend the said business, and to carry on the business of chemists, druggists, drysalers, oil and colour men, importers and manufacturers of and dealers in pharmaceutical, medicinal, chemical, industrial, and other preparations and articles, compounds, cements, oils, paints, pigments, and varnishes, drug, dyewash, paint, and colour grinders, makers of and dealers in proprietary articles, and electrical, chemical, photographic, surgical, and scientific apparatus and materials, etc. The subscribers are T. Farries and H. R. Arnold. The first directors are T. Farries (permanent governing director, subject to holding 5,000/- ordinary shares), H. R. Arnold, and R. G. Halstead. Remuneration of T. Farries as director, 500/-; of other first directors, 1,250/- and 750/- per annum respectively. R.O., High Street South, East Ham.

COMPANIES WHICH MAY BE WOUND UP.—Three months from July 21 the names of the undermentioned companies will, unless cause is shown to the contrary, be struck off the Register, and the companies will be dissolved: Bendle's Meat Port Syndicate, Ltd.; British Molybdenite Co., Ltd.; Castleford Hygienic Institute, Ltd.; Colonial Dental Co., Ltd.; Ksour's Phosphates Co., Ltd.; To-Kalon Manufacturing Co., Ltd.

BAISS BROS. & STEVENSON, LTD., wholesale and export druggists, Grange-works, Bermondsey, are proposing shortly to change the name of their firm to Baiss Bros. & Co., Ltd., and they have obtained the consent of the Board of Trade to that end. This is practically reverting to the old trade-name of the firm, Baiss Bros. & Co., as it appeared in the London Directory of 1835, when the address was 125 and 126 Lower Thames Street. The company are rapidly outgrowing their present Bermondsey premises.

LIEBIG'S EXTRACT OF MEAT CO., LTD.—The annual report for the year to March 31, 1916, states that the results show a gratifying improvement over those of the preceding year. The balance of profit amounted to 380,672/- of which 110,000/- has been distributed in the payment of the 5 per cent. preference dividend, and an interim dividend of 10 per cent. on the ordinary shares. It is now proposed to pay a final dividend on the ordinary shares of 10 per cent., making 20 per cent. for the year 1915-16 (60,000/-) (free of income-tax); to pay a bonus of 5s. per share (free of income-tax) on the ordinary shares (30,000/-). Balance forward is 150,619/-.

APOLLINARIS & JOHANNIS, LTD.—The Earl of Bessborough presided at the nineteenth ordinary general meeting, held at the Holborn Restaurant on July 20, when a statement from two firms of auditors was read to the effect that, owing to the war and the dislocation of business and means of communication caused thereby, the directors are not in a position to draw up a balance-sheet which would exhibit a true and correct view of the state of the company's affairs at March 31, 1916. The Chairman, in moving the adoption of the report, stated that the official supervisors placed in control of the spring by the German Government, owing to the British interests in Apollinaris, still remained, and very meagre information had been received, but he believed the spring and property were intact. The Apenta spring is a small part of the business, but the Hungarian Government continue to show every consideration, and have permitted the British members of the staff to remain at their posts and to take care of the spring. The Owens European Bottle Co., Toledo, Ohio, had made a further return of part of the capital upon the shares held by the Apollinaris Co., amounting to 10,091/- 12s. 7d. His Lordship also stated that expenditure and staff had been reduced to the lowest possible limit consistent with efficiency. The report was adopted.

Legal Reports.

Castor-oil Contract.—In the King's Bench Division of the London High Court of Justice on Monday, July 24, Mr. Justice Darling and a special jury commenced the hearing of an action brought by Stockdale & Doel, produce-brokers, Liverpool, against Mr. George Mitchell and Mr. J. R. Hall for damages for alleged breach of contract for the sale of 1,750 cases of castor oil. Mr. Greer, K.C. (for the plaintiffs), said they had acted for a number of years as brokers for the British Indian Oil Mills, Ltd., to sell their oil. The company manufactured oil from the castor-bean in India by a process introduced to them by Mr. Mitchell, who was the inventor, and who was now the only defendant

with whom the jury were concerned. Mr. Hall and the company having admitted liability. Mr. Mitchell was a debenture-holder, and also acted for the company in England to find purchasers of oil. In August 1913 the interest on the debentures was in arrear, and Mr. Hall, who was a clerk in Mr. Mitchell's office, was appointed receiver for the debenture-holders. In September 1913 a contract was made by which the plaintiffs were to sell 1,750 cases of castor oil for the company. They arranged to sell the oil to Evans Sons Lescher & Webb, but later on the contract was repudiated. After arbitration proceedings the plaintiffs were ordered to pay Messrs. Evans 834/- 10s. 5d., a sum which they now claimed from Mr. Mitchell on the ground that he warranted that Mr. Hall had the authority of the debenture-holders to enter into the contract, whereas he was Mr. Mitchell's clerk, and only acted as his agent and under his instructions. The hearing was adjourned till Wednesday.—Mr. Clavell Salter, K.C., opened the defence for Mr. Mitchell on July 26, contending that the action against him was not well-founded. No doubt, he said, Messrs. Stockdale & Doel experienced some difficulty through the action of the debenture-holders, they having apparently entered into a contract to sell the oil without disclosing the source from which they were to obtain it, but that did not give them a good cause of action against Mr. Mitchell. The hearing was adjourned.

Insurance Act Dispensing.

A Record of matters concerning Chemists' interests in the National Health Insurance Acts.

Reports from Local Centres.

ENGLAND.

Birmingham.—At the meeting of the Pharmaceutical Committee on July 21, Mr. C. Thompson was re-elected Chairman and Mr. F. Smith Secretary. The Military Service Sub-Committee reported upon what had been done to procure the exemption of sufficient staff to deal with the dispensing of medicines.

Bournemouth.—The Medical Benefit Sub-Committee reported as to the steps taken to obtain exemption of sufficient staff to ensure an efficient pharmacy service.

Essex.—A meeting of the Insurance Committee was held on July 18. The Financial Sub-Committee reported that the settlement of accounts for 1915, proposed by the Commissioners, had been accepted by the British Medical Association and the Pharmaceutical Society. A report was also received regarding the steps taken to obtain exemption of chemists from military service. The recommendations made had been generally accepted by the military authorities. The Medical Benefit Sub-Committee recommended that an additional dispensing-fee of 3d. be allowed in respect of each prescription marked "Urgent" by the practitioner, dispensed by the chemist between the hours of 9 P.M. and 9 A.M. Mr. Buxton said the recommendation was made with a view to discourage inconsiderate people from needlessly presenting prescriptions late in the evening. Dr. Panting moved that the recommendation be deleted from the report, "in the interest of the insured person." Mr. J. H. Peacock moved as an amendment that an additional dispensing-fee of 3d. be allowed in respect of each prescription marked "Urgent" which is presented for dispensing within the Metropolitan Police area between the hours of 9.30 P.M. and 9 A.M. Mr. Elvin supported the recommendation of the Committee. While he was keenly interested in the insured person, he thought that they ought to look at the matter from an impartial point of view. Workers were paid for overtime, and why should not chemists be paid as well as anyone else? Dr. Panting had let the cat out of the bag, for if the recommendation were adopted there was the possibility of practitioners being surcharged, so his action was not so disinterested as he had assured them it was. Mr. C. Goode said that in the Metropolitan Police area the majority closed at 9 P.M., but it was sometimes 9.30 and 10 o'clock before they could get out of their shops. If a portion of some of the large unwieldy panels of three and four thousand were distributed among practitioners who had not quite so many, he believed that they would get over a lot of difficulties. The amendment was lost by a large majority. A further amendment by Dr. Clowes, that the date and hour at which it was issued should be put on a prescription marked "Urgent" by the practitioner, was agreed to. The report was adopted in the altered form. It was reported that the following sums had been paid to chemists for the quarter ended June 30: For drugs, etc., 3,900/- 11s. 3d.:

ditto (Temporary Residents' Fund), 33*l.* 13*s.* 4*d.*; ditto (Sanatorium Benefit Fund), 110*l.* 4*s.* 7*d.*; ditto (Special Arrangements Fund), 5*l.* 5*s.*

Grimsby.—At a meeting of the Insurance Committee, held on July 20, it was reported that during the year 1,062*l.* 16*s.* 7*d.* had been paid to chemists and 7,309*l.* 8*s.* 4*d.* to doctors. Commenting upon the work of the past twelve months, the Chairman said there had indeed been practically no serious complaint, and he complimented the doctors and chemists upon the fact. Mrs. Ashworth, Mr. G. H. Morley, and Mr. Clark were elected to serve upon the Pharmaceutical Sub-Committee. On the recommendation of the Finance and General Purposes Sub-Committee it was decided that no further cheques should be paid to Mr. C. H. Ashton, on the panel of pharmacists, until the Commissioners had announced their decision on the recent inquiry.

Isle of Wight.—At the meeting of the Insurance Committee, it was reported that the Panel Committee has selected ten stock mixtures from the Central List to which the reduced dispensing-fee will be applied.

London.—A meeting of the Insurance Committee was held on July 27. The General Purposes Sub-Committee reported that after very careful consideration of the position regarding the four stock mixtures adopted by the Panel Committee from the Central List and six from the "London Insurance Pharmacopœia," it had been "reluctantly forced to the conclusion that notice must be given by the Committee to the chemists with whom they are in contract specifying the mixtures selected and the date from which the reduced fee is applicable." The date from which the reduced dispensing-fees are payable is July 20. One of the cases of complaints against a medical man which the Medical Service Sub-Committee investigated centred round an illegible prescription. None of the medical members could read it, and it was found that the practitioner was in the habit of sending out badly written prescriptions. In one case the medical man was unable to read his own writing. He pleaded that he was subject to heart-trouble, that the light was bad when he wrote the prescription complained of, and that the pencil failed him. The attention of the Commissioners is to be called to the matter. The Pharmaceutical Service Sub-Committee reported regarding investigations of complaints against chemists. In one case the chemist was out of stock of potassium iodide, and advised the insured person to go to another chemist, as he could not replenish the stock owing to the holidays. Another case turned on the quantity of medicine supplied, the chemist's interpretation being accepted as reasonable. The third complaint was in regard to the failure to supply tab. guaiacol. carb. which the wife of the chemist to whom the prescription was presented offered to obtain as the tablets were not in stock. When the patient sent for the medicine two days later the messenger was asked to take the prescription to the doctor, so that something cheaper could be prescribed. The chemist is to be censured for his wife's conduct in the case.

Manchester.—At the meeting of the Pharmaceutical Committee on July 5, Mr. F. W. Bates was re-elected Chairman, Mr. J. Bell Treasurer, and Mr. A. Hershberg Secretary. The annual report of the Committee has been sent to panel chemists reviewing the work of the past year and giving a balance-sheet for 1915 and the first six months of 1916. A circular has also been sent to panel chemists regarding the cost of prescription-checking, and stating that proposals have been submitted and accepted for a remission of a considerable portion of the estimate made by the Pharmaceutical Society, the sum saved being returned to the Drug Fund. "This voluntary action speaks well for the straightforward policy of the Society's Checking Bureau," states the circular.

Portsmouth.—At the last meeting of the Insurance Committee a report on the work of the Pricing Bureau stated that prescriptions are now being priced at the rate of 65,000 a week, and that in 168 cases it had been necessary to return the scripts to chemists. The Portsmouth cases, however, were only one or two. It was proposed in future to decline to price prescription-forms in which the term "Rep. mist." is used. The Finance Sub-Committee reported that a suggestion had been received from the Commissioners regarding a new form of prescription-book which is to be adopted when new supplies of prescription-forms are required. Statistics were supplied as to the number and cost of prescriptions for each month this year. The cost per script varies monthly from 5.83*d.* to 5.94*d.* In regard to the charges made by Dr. Mulvany against chemists (*C. & D.*, June 3, p. 39) it was stated, "No reply in writing had been received from Alderman Dr. Mulvany, and it was reported that he did not wish to proceed further in the matter." The report of the Medical Benefit Sub-Committee dealt with the steps taken to obtain exemption from military service for a sufficient number of pharmacists

to maintain an efficient pharmacy service. The number of pharmacies in the area is fifty-six and the average number of civilians per business 3,572. The average number of insured persons per pharmacy is 893.

Stockport.—The annual report of the Insurance Committee states that during 1915 there were 149,338 prescriptions dispensed, and that the chemists on the panel have been paid 3,208*l.*

Surrey.—A meeting of the Insurance Committee was held on July 26, when the Medical Benefit Sub-Committee reported regarding the action taken to obtain exemption for chemists from military service, and it was mentioned that the work has been very heavy, necessitating twenty-two attendances at Tribunals. A report was received from the referees appointed by the Commissioners under Article 50 (4) of the Medical Benefit Regulations on the question whether the examination of the eyes with a view to prescribing spectacles is part of the Medical Benefit under the Act. The conclusion arrived at in the particular case was that the service rendered was so offered or rendered as "to exclude it from treatment of a kind which could be properly undertaken by a general practitioner of ordinary professional competence and skill."

SCOTLAND.

Aberdeen.—The Finance and Medical Benefit Committee reported that attention has been drawn by the Commissioners to the high average cost per script and per person of drug prescribed, and the large number of prescriptions given by several panel doctors. The matter is being investigated by the Panel and Pharmaceutical Committees.

WALES.

Montgomeryshire.—At the last meeting of the Insurance Committee, Mr. H. E. Ellis, chemists' representative, protested against the recommendation of the Panel Committee to use ten stock mixtures. Dr. Lewis thought the point was that chemists received more for prescriptions made up separately, but Mr. Ellis retorted that he was thinking of the interests of the patients. Ninety per cent. of the prescriptions in the future would, he was sure, be stock prescriptions; the ten prescriptions will be expected to cure all the ills that flesh is heir to.

Association Affairs.

Cambridge.—On July 20 the Cambridge Pharmaceutical Association received a visit from London pharmacists. The party, consisting of Messrs. H. Skinner, Atkins, Atkinson, C. W. Brumwell, Hatfield, J. H. Matthews, C. W. Matthews, Melhuish, Procter, Shirtliff, Tocher, Wing, and Wilkinson, were met at Cambridge Station by Messrs. S. F. Barker (Local Secretary) and B. S. Campkin and conducted to the Dorothy Café, where they were met by the President, Alderman A. S. Campkin, J.P., and Messrs. Coulthard, R. Deck, H. Flanders, Mallett, Parsons, and Moss. Arrangements were made for conducting the party for a short tour round the principal colleges and places of interest, and tea was provided about 6 P.M. Afterwards an informal Conference was held, initiated by Alderman Campkin, on organization and pharmaceutical matters. Mr. Melhuish proposed the thanks of the visitors to the Cambridge Pharmaceutical Association. Afterwards the visitors continued their ramble round Cambridge, and before leaving for town were entertained by Alderman Campkin at his private residence.

Portsmouth.—Mr. T. O. Barlow presided over the annual meeting of the Portsmouth Pharmacists' Association, which was held on July 19. The usual reports were presented, Mr. Sparrow, speaking as Vice-President of the Committee of the Ambulance Section V.T. Corps, acknowledged the timely help that had been given by the pharmacists. The Ambulance Section is now in a strong condition and doing useful work. He threw out the suggestion that the Association might devise further ways of comforting the wounded. Mr. Atterbury gave an account of his stewardship on the Portsmouth Insurance Committee. This work, in general, had been pleasant, due to the fact that the interests of chemists have always received a sympathetic hearing. The new officers were elected as follows: *President*, Mr. T. Postlethwaite; *Vice-President*, Mr. A. B. Sparrow; *Treasurer*, Mr. G. W. Darling; *Secretary*, Mr. W. R. Atterbury; *Auditors*, Messrs. Eyres and Edgar; *Committee*, Messrs. Baker, Bown, Brewis, Edgar, Egerton, Greenhalgh, and Rhodes. The new President spoke in a very appreciative manner of the services which had been rendered by the retiring officers and Committees. Three guineas was voted to the Benevolent Fund and two guineas to the Orphan Fund.

French News.

(From the "C. & D." Paris Correspondent.)

MANNA OF THE HEBREWS.—M. Chas. Rolland, referring to the use as an aid to parturition by Persian women of a substance known as "Chirzadé," states ("Bulletin Commercial") that this is the Persian name for *Lecanora esculenta*, the manna of the Israelites. He explains the spontaneous appearance of manna in this way: The lichen becoming dry is blown long distances in the form of dust, and covers the ground. A shower of rain is sufficient to cause the lichen to grow rapidly, and thus it would appear to the Israelites that the manna had fallen from heaven. M. Rolland states that the lichen has considerable nutritive properties, due to the 20 to 25 per cent. of lichenin which it contains—sufficient to support life for a long time.

APOTHECARY BILL OF A FAMOUS FAMILY.—The name of Lazare Carnot, the "Organiser of Victory" of a hundred and twenty years ago, is popular in France just now. The Carnot family came from the Côte d'Or district, and Madame Joseph Carnot, who still lives at Nolay, has confided to M. J. B. Philibert, pharmacist in that little town, a curious old surgeon-apothecary's bill, dated 1768-71, but only receipted in 1781. The father of the great Carnot had eighteen children, so any slight delay in settling accounts is comprehensible. Passing over the interesting items of "styptio water" for the warts with which the hands of the eldest Mlle. Carnot were embellished, and which appear to have been finally dealt with by ligature, we find that the family were bled in the good old-fashioned way from time to time (the charge was eight sous). The future "organiser of victory" figures on the bill as the "second son of M. Carnot." He was presumably not old enough to be bled, but he was dosed on September 19, 1768, with a "vomitive and calming potion," and on October 3, 1769, he received the "vomitive and vermifuge potion," which was evidently freely administered, for we find his elder sister and the maid-servant similarly treated. The apothecary-surgeon dosed the domestics as well as the actual family, and gathered fumitory, watercress, etc., to make "a large bottle of the sap," or pressed out juices, for the use of Mlle. Carnot and her eldest daughter.

LETTERS OF BERZELIUS.—The third and fourth volumes of the "Correspondence of Berzelius," recently published by the Royal Academy of Sciences of Stockholm, and presented to the Paris Society of Pharmacy, contain the letters which the great Swedish chemist exchanged with Alexandre Marcet, of Guy's Hospital. It was probably during his first visit to London in 1812 that Berzelius made the acquaintance of this Swiss doctor, who was permanently settled in England and took a lively interest in chemistry. It was at Marcet's laboratory that the two *savants* collaborated in experiments the object of which was to analyse the chemical constituents of what was then called "Lampadius's liquid sulphur," and which they proved to be a mixture of sulphur and carbon. Naturally, this correspondence, extending over several years, touches on an infinity of subjects. Here, for instance, on January 23, 1816, Marcet describes to Berzelius Davy's newly invented safety-lamp for miners, and gives him a rough sketch of the original article. In December 1818 Berzelius tells Marcet of Pelletier and Caventou's experiments on the alkaloid which they proposed to call "vauqueline" in honour of the famous French pharmacist, but which we now know as strychnine. The great Swedish chemist was at Paris at this time—he came in August 1818, and left in July 1819. It was a well-occupied and interesting twelve-month. "I am so busy," he writes, "that I have hardly time to sleep." He tells how he studied the polarisation of light with Biot, and stayed six weeks at Arcueil doing chemistry in M. Berthollet's laboratory from morning to night.

Serving under the Colours.

THE characteristic of the French soldier is to take the hardships of military life in a lighter vein; the mobilised pharmacist is no exception to the rule.

"In civil life," writes a "pharmacien-poilu" to his favourite journal, "all pharmacists are about equal. In the army they are divided into two classes, the officers and non-coms. on the one hand, the privates on the other. The former are utilised—sometimes—as pharmacists. The latter are told off for fatigue duty.

Take my own case. When mobilised I set off, full of noble and patriotic enthusiasm, to the headquarters of the 4th Ambulance Section. I was told off to join an improvised hospital train. And so I travelled on the railway till

June 1915. Certainly there was plenty of fatigue duty. But one is a private or one isn't, and, after all, a hospital orderly has his job; he is there to look after the sick and wounded. So I do not criticise. But when these improvised trains gave place to 'semi-permanent trains,' I and my comrades were drafted into the Reserve, and now only travel occasionally. And as no arrangements have been made for the rational utilisation of the pharmacist-orderly, we do all the odd jobs. For instance, we dredge sand from the Seine to gravel the pathways of the great temporary hospital. As the garden is immense, this work will last till the end of the war; we've been at it two months. Then we excavate to make an ornamental garden; we load and unload hospital stores, including sacks of lime, etc., on or from carts or railway trucks. Of other interesting sanitary work I might speak, but the olfactory Censor has mutilated the phrase. The most favoured among us wash bottles in cold water, summer and winter (we pharmacists treat our bottle-washers more humanely)."

Another case is cited where a distinguished pharmacist was for some time employed as a dishwasher in a sergeants' mess—perhaps we should say waiter, for he also served his (military) superiors at table.

These tales travel round the trade not in any spirit of "grousing," but as excellent jokes. Almost every pharmacist has one to tell of some friend or colleague. Who was it that insisted on the pleasure we find in the mishaps of our best friends?



Rue de la République, Creil.

Showing Effect of the Bombardment.

The French Pharmacist at the Front.

Is it because the eyes of the civilised world are still fixed on Verdun that these personal experiences of a French pharmacist* seem so interesting? Possibly. They are pages of living history, and the simple diary takes one behind the scenes of perhaps the most portentous military struggle on record.

Returning from a short furlough, M. A. Langrand, a Parisian pharmacist now mobilised and attached to the Army Reserve, arrived at Bar-le-Duc on March 2. The only line from there to Verdun had been requisitioned by the military authorities. But a string of seventeen army motor-lorries was drawn up in the street. He asked and obtained permission to travel on one of these. At 1 p.m. the convoy started. It is one of many. From Bar to Verdun the road is one uninterrupted line—or rather two lines, for one is going and the other returning—of motor lorries. This living artery, by which the fighting line was constantly fed with troops, stores, and munitions, is what saved the town. At the village of S— the pharmacist reports himself according to orders. He learns that his destination is the town of Verdun itself. It is now night-fall. A car belonging to the Flying Corps is leaving; he mounts therein, and it starts. Lights are put out, and the black night is only illuminated by distant star-shells. The roar of the cannon becomes louder and louder as the town is approached. He alights, and the friendly airmen give

* "An Ambulance at Verdun during the German Attack, March 1915," by A. Langrand, (Bulletin Mensuel du Syndicat Général des Pharmaciens de France.)

him elaborate directions, but in the dark, deserted streets of a strange city, with shells falling and houses collapsing with a deafening crash, he is lost until, noticing a gleam of light under a doorway, he raps, and a sleepy soldier directs him to the hospital. His journey is not yet finished. The ambulance is two miles away. "Better take a mask," says the head surgeon, for asphyxiating shells may fall on the way. And he continues. The hills around are continually lighted by exploding shells, and the thunder of the bombardment never ceases. At 9 p.m. he finds his ambulance, which has but just arrived. And none too soon. In front of the building the motor-cars of the British Red Cross are constantly arriving and discharging their groaning, helpless freight. From Douaumont and Dambloup, from Fleury and from Vaux, come the *débris* of the pharmacist's division. The cars stop, the back doors are flung open, the stretcher is slid out, two bearers seize it, and one more wounded man is added to the long line in the wards. All too soon these are chock-full. The stretchers fill the corridors and mount the stairs, while the men able to limp or crawl are helped up to the top storeys. When day dawns on the 3rd, 400 men have been brought in. All night long the surgeons have worked with feverish zeal, yet many still await their attention. Luckily there are three ambulances. The head surgeon arranges that each shall receive men for eight hours out of the twenty-four. This will give breathing time, and allow the slightly wounded to be seen to, the graver cases to be sent to the rear.

Meanwhile, what has the pharmacist been doing? In moments like this he can almost choose his own work. But what this should be is self-evident. He prepares antiseptic solutions and urgent medicaments, he sees that the wards are kept as clean as circumstances permit, he sterilises and disinfects instruments. But over and beyond this, his regular work, he will at such times "ask for more." Here the illegal practice of medicine is not so much a toleration as a bounden and human duty. The head surgeon begs M. Langrand to administer preventive inoculations of antitetic serum. Happily this is abundant. Every man of the 3,000 who passed through the ambulance during those eleven days and nights received his dose, and everything possible was done to fight the dreaded scourge.

When and where did the ambulance staff eat and sleep? They hardly did either. One room sufficed for dormitory and refectory. They snatched a mouthful of food when time permitted, and flung themselves for two or three hours by turn on the straw-strewn floor. The younger men were able to doze a little, the older could hardly do so under such conditions. They have little wish to do so. With haggard faces and feverish eyes, hardly covered by their tattered, bloodstained, muddy uniforms, the wounded lie there, under hastily thrown blankets, yet shivering with cold, their feet half frozen in their soaked boots, but motionless and silent. Not a complaint is heard as the staff bustles round, trying to warm them by doses of broth and tea. They tell simply enough how they have been struck down, how round Vaux the corpses are heaped so high in places that counter-attack was impossible, the brief and broken echoes of the ebb and flow of the struggle. Only in the operating-room are cries of pain heard; for it is often—very often—impossible to employ anaesthetics for various reasons. And even here silence is as a rule heroic. The men are patient, courageous, and touchingly grateful for slight services, for a mouthful of champagne after the operation, and, above all, for immediate and timely attention to their injuries, for the effort made to save life and limb.

The nights were always terrible. The hospital windows had to be kept darkened to avoid shell-fire, for every luminous spot was bombarded. With candles or pocket-lamps the staff groped along the encumbered corridors. Only when the three operating-tables were occupied day and night were acetylene-lamps installed. And it was at night that most of the wounded arrived, for only under cover of darkness could the stretcher-bearers carry their comrades to the rear. Outside the rain and snow were falling while the hills were still blazing with the bombardment, the crash of the cannon continued. It was a scene for Dante's "Inferno." The only news received was gathered from the confused accounts of the wounded. No newspaper arrived. On Shrove Tuesday night the bombardment was at its apogee, and all wondered if they would ever see daylight again, or if Verdun could longer resist. "They can't pass," said the wounded. And such was the case. By March 13 the French artillery had been reinforced, and the crisis was over.

On the 14th the ambulance was removed. The division had suffered so severely that it was to be relieved. When

the sanitary staff started at 11 A.M. the weather was magnificent, and the cannonade at last seemed to slacken. Overhead the Fokkers soared, surrounded by tiny, fleecy clouds of French shrapnel smoke. As the motor passed the fortifications, three shells burst only 300 yards ahead. When it reached the spot a dead man already lay there. A second discharge—harmless this time—and the pharmacist had quitted the still inviolate fortress town.

* * * * *

This remarkable article called back to my memory, writes our correspondent, a chat I had with an old French army pharmacist, who saw, at very close quarters, one of the great battles of 1870-71. He was at St. Privat, the village near Gravelotte, where the Prussian Guard "found its grave." I was naively surprised at an ambulance being placed at a point where such fierce fighting took place, and he dryly replied that the sites of great battles were not, as a rule, fixed in advance. The tide of war surged gradually up to the village, the ambulance first came within artillery range, then under rifle fire, and, ere the day closed, my friend and his comrades found themselves prisoners of war. They were carried to Germany, and the story of his escape astonished me still more than that of his capture. He assured me that he was never formally liberated, but that, after Sedan, the Germans were so certain that the war was over that the prisoners were allowed to go pretty much where they pleased, so those who had the necessary initiative and the needful cash at once took a ticket for Belgium (then a neutral sanctuary), whence they easily came back to France. He is, of course, an old man now, and for all wars previous to 1870 we must go back to books.

Netherlands Notes.

(From the "C. & D." Correspondent.)

KAPPELHOF & HOVINGH, of Schiedam, have converted their business into a joint-stock company, under the name of Maatschappij tot voortzetting der zaken Kappelhof & Hovingh.

HOLIDAY COURSES FOR PHARMACISTS will be held in September in the Pharmaceutical Laboratory of Utrecht University. A provisional programme for this year has already been arranged, but it will depend entirely upon the number of persons who enter for the various courses whether a course on any special subject will be held. The following subjects are mentioned on the provisional programme: Microchemistry of plants; examination of drugs and determination of active principles; detection and differentiation of blood; microchemical analysis of alkalies; testing weights for analytical purposes of measures, thermometers, refractometer, etc.; the use of centrifugal machines in analytical chemistry; series of simple experiments for teachers of physics and chemistry; bacteriological technique and the applications of bacteriology to the examination of medicaments, disinfectants, and foodstuffs; chemical, microscopical, and bacteriological examination of urine; physiological determination of active principles in medicaments; introduction to hydrobiological examination; gas-analysis and electrochemical methods of analysis; bookkeeping for pharmacists; detection of poisons; application of photography and microphotography in toxicological and judicial examination.

Business Changes.

Authenticated notes are inserted without charge if not in the nature of advertisement, and subject to Editorial approval.

THE BUSINESS of W. Cleave & Co., Ltd., 121 High Street, Notting Hill, W., has been taken over by the London Drug Co., Ltd., Brighton, Bexhill, Eastbourne, and Littlehampton.

T. RIDLEY & SON, pharmacists, 9 English Street and 6 Botchergate, Carlisle, have purchased the stock and prescription-books of Mr. John Jefferson, chemist and druggist, of Lonsdale Street, Carlisle, and transferred the business to 9 English Street.

THE Brightside and Carbrook Co-operative Society has secured the old-established business of the late G. Ellinor, Ph.C., 76 Spital Hill, Sheffield. This is the second pharmacy the Society owns in the city. The management is to be taken over by Mr. J. Howard Batley, who has managed one of the branches of Boots, Ltd., at Halifax.

India and the East.

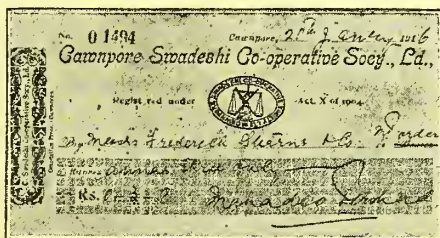
(From the "C. & D." Correspondents.)

DR. L. P. DE BUSSY, Director of the Deli Assay-Station, Sumatra, has been appointed Director of the Commercial Museum of the Colonial Institute in Amsterdam, in the place of Dr. Dekker, who has retired.

FOOD AND DRUGS IN INDIA.—The question of dealing with the adulteration of food and drugs in India is now before the Government of India, says a Press message from Simla, published in the "Indian Trade Journal." The main question has hitherto been whether the legislation to be introduced should be Imperial or provincial, the differing conditions obtaining in the various provinces pointing to the desirability of the latter course. An Imperial Act, however, will probably be necessary to deal with imported articles.

ENEMY FIRMS IN INDIA.—A Reuter's telegram from Simla notifies that the Government of India have promulgated an Ordinance dealing with the liquidation of hostile firms and the property of hostile persons, which brings legislation in India into close accord with the present state of English law. The new procedure represents a considerable advance from that hitherto adopted, in that initiative for the liquidation will come from the liquidator, and will not be left nominally with the firm itself. It will also enable hostile businesses dealt with to be completely extinguished, thereby preventing any chance of their recovering from the state of suspended animation and resuming business after the war.

FREDERICK STEARNS & CO., Detroit, Mich., U.S.A., recently received from a customer in India a cheque for 3 annas (3d.) to pay postage on a sample bottle of Stearns' wine



of cod-liver extract. They think this may safely be termed a record for smallness. Certainly it deserves illustration here.

THE MANUFACTURE OF CUTCH IN BORNEO has progressed in a few months from an industry that barely paid expenses to one of considerable importance. A Scotch firm with headquarters at Glasgow is doing it, and it has factories at Sandakan and Kudat. The sudden demand is due to German supplies of coal-tar colours being cut off. Consul-General M. Hanson, Sandakan, classes gambier and catechu as cutch, making the following varieties: (1) Gambier cutch, from the leaves and twigs of the *Uncaria Gambier*; (2) Bombay cutch, from the fruit of the *Areca Catechu*; (3) Bengal cutch, from the heartwood of the *Acacia Catechu*; and (4) mangrove cutch, from the bark of *Cerriops Candolleana*, as well as from varieties of *Rhizophora*. There are two distinct kinds of mangrove in Borneo: the ordinary kind is known by the native Malay name Bakau, which name is also applied to the extract of the bark. The other kind is called Tungah, also a native name, this being the better kind for dyeing. The Sandakan factory at present produces about 160 tons monthly, and plant is being increased to a productive capacity of 250 tons or over per month.

BENGAL CHEMICAL AND PHARMACEUTICAL WORKS.—Dr. P. Chandra Ray, in a recent Calcutta University Extension Lecture, referred to the foundation and growth of these chemical-works, which he founded and which have proved so helpful in supplying the needs of India during the war. He said:

We in Bengal are lamentably backward in commercial and industrial pursuits, and have almost become a byword of contempt and reproach to our more fortunate brethren in Bombay, which can boast of merchant princes and captains of industry. Perhaps it may be excusable in me to point out that we have a humble and unpretending object-lesson in our infant indigenous chemical undertaking; it shows, at any rate, that something can be done even in Bengal when science is wedded to industry. Some of you may be aware that the Bengal

Chemical and Pharmaceutical Works had its birth and early struggles in the dark and dingy rooms of a house not far from this place, and that it started with the modest sum of Rs. 800. With the recent expansions which have already been taken in hand it will soon cover an area of 24 bighas (8 acres), and its present capital of 5 lacs will have to be doubled, with a view to the installation of new plants. It has always been a fixed principle with the directors of this business not to take in anyone as a chemist whose knowledge is not up to the M.Sc. standard of our University. There is another matter—rather of a delicate nature—which may not be passed over in silence. The works have been conceived, initiated, and managed solely by Bengali brains, energy, and pluck, and it has never been necessary to call in the aid of any foreign experts. Perhaps you may be interested to know that, owing to the serious dislocation in the chemical-trade due to the war and the stoppage of supplies from Germany, it has been doing a roaring business in some lines—e.g., magnesium sulphate is being turned out by tons, and a consignment has been shipped to England; it has also been its privilege to be of some little help to Government in the matter of supply of acids, etc., for munitions.

We learn that nitric acid is being made from Bengal salt-petre instead of Chilian salt-petre, the cheaper product.

Prescription Problem.

THE prescription-reading exercise which was set in the Coloured Supplement, May 27, attracted a large number of competitors. The difficulties centred round the four ingredients pretty evenly, and many tripped over the directions. The correct reading of the prescription is as follows:

Pot. Cit. gr xv
Liq. Am. Acet. ʒij
Spt. Eth. nit. ʒv
Syr. Limon. ʒss
Aq ad ʒss

ʒvj, ʒss t.d.s. exaq.

The readings sent in for the first four ingredients, other than the correct ones, are these:

- (1) Pot. chlor., pot. nitr.
- (2) Sp. aetheris, syr. althææ, liq. bismuth.
- (3) Sp. aether chlor., ext. glycyrr. liq., tr. nuc. vom. tr. rhei co., liq. ferri perchlor., tr. strophanth.
- (4) Syr. zingib., syr. aurant., syr. simplex, syr. scillæ, syr. tolu, sp. amm. arom., tr. quin.

It should be noted, however, that the faults for the most part are of a venial character, but in a keen contest like the present these are sufficient to disqualify competitors. The following send in postcards containing a transcription correct in every particular:

Mr. Victor J. Arnfield, 209 Preston Road, Brighton.

Mr. H. Logsdaile, King's Lynn.

Mr. C. P. Whitehead, 19 Temple Road, Windsor.

Prize-winners may select a copy of "The Chemists' Dictionary of Synonyms" or "The Provincial Hospitals Pharmacopœias," whichever they prefer.

The following facsimile prescription forms the subject of the next competition. Postcard solutions should be sent not later than August 5. Prizes will be awarded at the discretion of the Editor, and in case of close competition the time of posting will be taken into account.

Handwritten prescription:
Syr. Catechu ʒij
Syr. Limon. ʒss
Syr. Aurant. ʒss
Syr. Zingib. ʒss
Aq ad ʒss

From a Military Hospital.

THE photograph herewith is of two dispensers in a military hospital at Alexandria. The dispensary is a room about 18 ft. by 10 ft. on the ground floor, and has a large store-room attached. There are excellent arrangements for rapid dispensing, including a large number of stock mixtures that will keep a reasonable time. Photographic solutions



are also made up for the x-ray work. A feature of the Egyptian military hospitals is the ice-box, wherein are stored a large variety of serums. Ampoules are largely employed for hypodermic solutions, such as morphine and cocaine. The dispensers work long hours, but they always seem cheerful, and are thoroughly up in their work. These notes are contributed by Captain W. H. Bowling, who before the war was a Pembroke Dock chemist, and whilst laid by with dysentery had an opportunity of observing the dispensary from the patient's point of view. Captain Bowling has been connected with the home defence forces for a number of years. He obtained a

commission in 1904 in the Welsh Regiment, 1st Volunteer Battalion, and served with this until the formation of the Territorial Army, when he was transferred to the 1/4th Battalion, of which he is still an officer. On the outbreak of war the battalion was mobilised, and was engaged in this country for some time in coast-defence work. Afterwards he went out to the Dardanelles, and was at Suvla. Just before the evacuation of the position Captain Bowling had an attack of dysentery, which necessitated his

stay in hospital at Alexandria. In regard to Egyptian pharmacy, it is noticeable that all the chemists seem to specialise in urine-analyses and bacteriology. Most of them cater for tapeworm cases, very prevalent in Egypt, and there are often special clinics for venereal diseases. Not much trouble seems to be taken with window-display, but this may be a condition occasioned by the war. The native quarters have many shops corresponding to those kept by herbals at home. Some of the drugs are strange to an English chemist, but one seems always able to buy

charms against most of the ills that man is heir to. One thing natives do not trouble about is flies. If one of these insects settles on a native, it is allowed to remain or gently removed without harming the fly! There is a peculiar fascination about Egypt which will ever remain in the memory of those who have visited it and seen the wonderful Pyramids, the Sphinx, and the Garden of Allah. If it were not for these one's thoughts would always dwell on the plague of flies, mosquitoes, and bull-frogs. Captain Bowling is at present in a London military hospital, having contracted synovitis, but hopes that he will soon be fit again for active service.

SULPHUR-BAGS are still wanted by soldiers in the trenches. The bags are made of cotton fabric, and measure 3 by 2 in. Tapes are sewn to the bags so that they can be hung round the neck. Flowers of sulphur are used to fill the bags. A display of these in a chemist's window, with a ticket telling the uses of the bags, should lead to sales and promote comfort for the purchasers' friends in the trenches.

Birth.

WARNER.—At the Pharmacy, Berkeley, Gloucestershire, on July 12, the wife of Lance-Corporal G. R. Warner, of a son.

Marriage.

THOMPSON-PARSONS.—At St. Michael's Church, Birkenhead, on July 18, John H. Thompson, Nottingham representative of Ayrton, Saunders & Co., Ltd., to Frances, youngest daughter of the late James Parsons and Mrs. Parsons, Birkenhead.

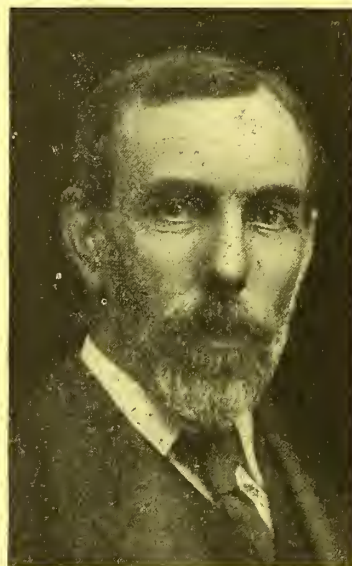
Deaths.

FOSTER.—At King's Cliffe, Northants, on July 18, Mrs. F. M. Foster, widow of Mr. C. Foster, chemist and druggist, aged eighty-five.

LANCASTER.—At 25 Rupert Road, Sheffield, last week, Mr. Bernard Lancaster, chemist and druggist, aged forty-seven. He was the youngest son of the late Samuel Lancaster, Grove Hall, Newbold, Chesterfield, and was pharmacist to the Sheffield Insurance Committee until bad health compelled his retirement. Mr. Lancaster was most popular with chemists and druggists in the district, and his death is much deplored.

RAMSAY.—At Beechcroft, Hazlemere, High Wycombe, on July 23, Sir William Ramsay, K.C.B., F.R.S., etc., Emeritus Professor of Chemistry, University College, London, aged sixty-three. For nearly a year Sir William had suffered

from an insidious and painful disorder for which unhappily there was no remedy. Few British chemists, even among the most distinguished, have done such splendid work for science as Sir William Ramsay did. He was a singularly gifted man, whose extraordinary accomplishments as a musician and a linguist were as remarkable as his outstanding ability as a chemist, physicist, investigator, teacher, and organiser. He was the son of Mr. William Ramsay, C.E., and was born in Glasgow on October 2, 1852. It is said that he was of the seventh generation of chemists in his family, and this no doubt was the



SIR WILLIAM RAMSAY, K.C.B., F.R.S.

reason why after his education at the Glasgow Academy he went to the University as a chemistry student, and when he was eighteen he continued his chemical studies under Bunsen at Heidelberg and Fittig at Tübingen, where he graduated as Ph.D. He returned to Glasgow when he was twenty, and became an assistant from 1872 to 1874 in the Young Laboratory of Technical Chemistry; then he became tutorial assistant of chemistry at Glasgow University, remaining until he became Professor of Chemistry at Bristol University College in 1880 and Principal of the College a year later. He continued in that position until he was, in 1887, appointed Professor of Chemistry at University College, London, succeeding Dr. Alexander Williamson. Although only thirty-five at that time, Ramsay's reputation as investigator and teacher was extraordinarily high, and he had the marvellous gift of drawing to himself young men who were willing workers. His discovery, along with Lord Rayleigh, of argon in 1894 was the opening of new lines of research, and it is to him that we owe the best of the early work on helium and the discovery of neon, krypton,

and xenon, Dr. Travers assisting him in the latter work. Lord Rayleigh and he shared the Nobel Prize in Chemistry. He was created K.C.B. in 1902 in recognition of the help that he gave the Government of India in co-ordinating the work of the universities and science schools of the Empire. In 1913 he retired from University College as Emeritus Professor. Scientific and other honours were poured upon him. He had been President of the Chemical Society, of the Institute of Chemistry, and of the Society of Chemical Industry. He held honorary degrees of a dozen universities, besides being an honorary member of scientific bodies in a dozen countries. We recall the presentation to him and Moissan in Berlin on June 4, 1903, of the Hofmann medals by the German Chemical Society, the first of the medals presented. When the present war broke out he was one of the most virile antagonists of Germany, but the Berlin Society would not take his name off the list of its honorary members, keeping this until the war is over—a fact remembered by many in the London Society who would have retained the German honorary members. Sir William had been an honorary member of the Pharmaceutical Society of Great Britain since 1898, and delivered the inaugural sessional address to the School of Pharmacy; he also presided at one of the late Watson Will's annual dinners given to the students of the Metropolitan College of Pharmacy. When at the Young Laboratory in Glasgow one of his pupils was Mr. W. L. Currie, and he had a correct perception of the peculiarities of pharmaceutical chemistry. As an author Sir William Ramsay had a high reputation, but amid all his fame and his distinction on both sides of the Atlantic his character stands out as that of a man who was a devoted friend and helper of many men and women, whose influence even they cannot gauge, whose kindness to his students and influence upon them were among the things for which he was conspicuous as a teacher. Great as he was as a chemist and a professor, it is as a consistent truth-loving man of great character that he will remain in the hearts of the living.

ITCHIE.—At Silloth, on July 18, Katharine Blyth Mackay, widow of Andrew Wemyss Ritchie, chemist and druggist, Langholm.

TAYLOR.—At 33 St. George's Hill, Liverpool, on July 19, Mrs. E. I. Taylor, wife of Mr. R. H. Taylor, Kirkdale Drug Stores, Kirkdale Road, Liverpool.

VINT.—At 15 St. Saviour's Road, Hastings, Mr. Thomas Dickinson Vint, chemist and druggist, aged seventy-three. Mr. Vint was an accomplished pharmacist and an excellent employer. Mr. W. S. Glyn-Jones was at one time with him and formed a friendship which was only determined by Mr. Vint's death. It will be remembered that some years ago Mr. Vint patented a menthol cone which was unbreakable on account of its being cast in a mould containing a feather.

Died on Service.

CORDERY.—Corporal Harold Cordery, of the 10th Royal Fusiliers, who has been killed in action in France, was the second son of Mr. Arthur Cordery, a director of R. C. Treatt & Co., Ltd., Dunster House, Mincing Lane, London, E.C., and was about twenty-one years of age. Corporal Cordery was educated at the Whitgift Grammar School, Croydon, and when war broke out he immediately joined the Colours and had been at the Front about fourteen months, during which period he was only once on leave. He was subsequently offered home service, but refused it on the grounds that "he wanted to finish his job out there." His commanding officer writes that he was "one of the bravest and best lads in the platoon," while Mr. R. C. Treatt, in whose office he was, speaks of him as "always a good and hard-working boy." Corporal Cordery has two brothers serving with the Forces.

FEARNLEY.—Second-Lieutenant W. Fearnley, of the Gordon Highlanders, who has been killed, was a younger brother of Mr. Fairfax Fearnley, chemist and druggist, Otley, Yorks.

FIELDING.—Private Frank Fielding, of the Manchester Regiment, and formerly with Mr. S. T. Shaw, chemist and druggist, Marsden, has been killed in action, aged eighteen.

GUEST.—Major Thomas Guest, of the York and Lancaster Regiment, and son of Mr. Thomas Guest, medicated-lozenge manufacturer, Ancoats, Manchester, who was reported last week to be wounded and missing, has been killed, and the fact is now officially reported. He was forty-one.

HEWITT.—On July 1, Lance-Corporal F. Hewitt, youngest son of Mr. J. R. Hewitt, chemist and druggist, 493 Seven Sisters Road, London, N. He joined the Bedfordshire Regiment a few weeks after war was declared and had served in the trenches for nearly twelve months.

LAMPLUGH.—On June 27, Staff-Sergeant Walter Lamplugh, D.C.M., Ph.C., aged twenty-seven. Sergeant Lam-

plugh was apprenticed with Ekins & Fisher, St. Albans, and after a course of study at the School of Pharmacy passed the Minor in 1909 and the Major in 1914. He joined the 13th Kensington Rifles on the outbreak of war and was shortly afterwards transferred to the 1st London Sanitary Corps. He went through the Gallipoli campaign and was awarded the Distinguished Conduct Medal "for exceptionally good work in regard to the sanitary requirements of the Army," the first award to a member of the Sanitary Company. After leaving Gallipoli Sergeant Lamplugh was in Egypt.

MARCHANT.—Second-Lieutenant R. H. Marchant, of the 9th East Surrey Regiment, who has been missing since January 27, is reported to have been killed in action, his personal effects having been sent home by the German War Ministry. Lieutenant Marchant was the son of Mr. W. Marchant, of Windsor House, Maidstone, and was a chemist. At the outbreak of war he joined the R.A.M.C. as a dispenser, and rose to the rank of sergeant-dispenser. Last July he was recommended for a commission, and was gazetted on November 28.

NEWBERRY.—On July 14, Lieutenant Richard Fenton Theodore Newbery, R.A.M.C., son of the late Edward Cleaver Newbery, and head of the Newbery family. Captain Newbery's father came from Prince Edward Island many years ago, and, although he brought with him the agency for Perry Davis's pain-killer and Alcock's plasters, this was quite distinct from the F. Newbery & Sons' business, and was his only connection with the drug-trade. His son Richard and his second son (also in the Army) were educated at Tonbridge School, after which Richard Newbery went to Edinburgh University as a student of medicine, and graduated as M.B., Ch.B. in March 1915, becoming a resident physician to the Edinburgh Infirmary. In October 1915 he obtained a commission in the R.A.M.C., and did excellent work, the Military Cross being awarded to him for heroism in attending the wounded and treating our own and the wounded of the enemy with the same sympathy, care, and attention. His wife is the eldest daughter of the Rev. Alex. Wylie, Edinburgh.

WE give here the portrait of Second-Lieutenant T. White, whose death on active service was reported in THE

CHEMIST AND DRUGGIST,

July 22 p. 39. Deceased

joined the Inns of Court

O.T.C. at an early period of

the war, and received his com-

mission last year. Mr. White

had been secretary of C. R.

Harker, Stag & Morgan,

manufacturing chemists, Lon-

don, E., for several years, and

would shortly have become a

director of the company, like

his uncle, Mr. Tom White,

chairman of the company, who

is well known in the drug-

trade, especially in Ireland,

where he is most popular and

did a lot of good work when

the British Pharmaceutical

Conference met in Dublin.

His nephew was universally

liked and respected by the directors and staff, who feel

the loss of his companionship and able services most keenly.



SECOND-LIEUTENANT T. WHITE.

Colonial and Foreign News.

HANS SCHEIDEMANTEL, one of the founders of the A.G. für Chemische Produkte vorm. H. Scheidemantel, Berlin, died in Munich on May 28, aged sixty-nine.

THE BELGRADE SOAP-FACTORY, which suffered severe damage during the war, has been opened again by the Austrian military authorities under the direction of a soap expert in military service.

PRICES IN BELGIUM.—The following are a few current prices in Belgium for medicinal products of German origin: novospirin tablets, 4.25f. per tube; veronal tablets, 3.75f.; novonosan tablets, 4f.; sodium iodide, 82f. per kilo.; salol, 45f. per kilo.; sodium salicylate, 30f. per kilo.; diuretin, 175f. per kilo. The principal victims of these inflated prices (says the "Pharm. Zeit.") are the German soldiers, officers, and officials, who are the chief buyers; also the German wholesale druggists, who find the quantities asked for from Belgium diminishing rapidly.

Personalities.

Authenticated notes are inserted without charge if not in the nature of advertisement, and subject to Editorial approval.

DR. W. ECCLES, A.R.C.S., M.I.E.E., has been appointed successor to Professor Silvanus Thompson, F.R.S., at the Finsbury Technical Institute.

THE "Cardiff News" mentions that Lizzie Hughes, Penmaenmawr, who passed the Minor examination in London this month (*C. & D.*, July 15, p. 45), is the widow of the local chemist (Thomas J. Hughes), and in order to carry on the business commenced to study immediately after his death, and attended the Liverpool School of Pharmacy.

MISS ANNIE R. BENZIE, who has been awarded the first prize in our Corner for Students analytical tournament,



MISS A. R. BENZIE.

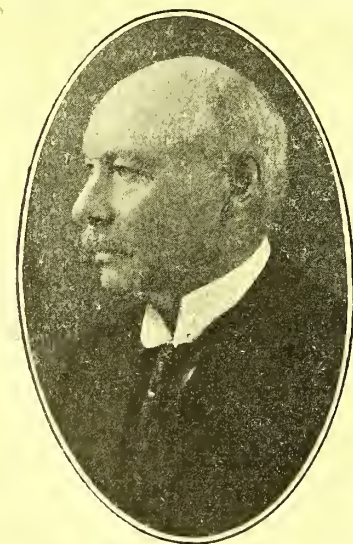
is the first woman to attain that position. She served her apprenticeship to, and is now an assistant with, a past Corner for Students prize-winner, Mr. Marshall K. Watt, 28 Esslemont Avenue, Aberdeen, to whom she says her success is undoubtedly due. It is in the private laboratory attached to his pharmacy that Miss Benzie has done all her analytical work, and the only practical chemistry book which she used was that of Mr. Gilbert Simpson, teacher of pharmacy at Gordon's College, Aberdeen. Miss Benzie says that she found Dr. Dobbin's criticisms and suggestions of

great service, and it was obvious that the salts had been put up with a definite purpose and intent, so that competitors had to be very wary and not "pot" for the "most likely" constituent. Experience in doing the analysis is not lost, and Dr. Dobbin's remarks are very informative and useful. During the winter months Miss Benzie attended Gordon's College evening classes and gained the first prize in the second year and first (equal) in practical chemistry, Dr. J. F. Tocher being the examiner. In the previous year she gained the first prize in pharmacy.

We publish to-day two interesting tables of pharmaceutical factors collected from the new edition of Squire's "Companion" (pp. 770-771). In this connection it is interesting to note that the author, Mr. Peter Wyatt Squire, F.C.S., F.I.C., was registered as a pharmaceutical chemist in July 1866. We feel sure that many in pharmacy and

medicine will join with us in congratulating Mr. Squire on his jubilee as a Major man. One has to know Mr. Squire in order to understand his comparative youth, for, besides being the author of the largest and most thorough English pharmaceutical work, the "Companion," Mr. Squire holds records in three departments of sport — namely, golf, punting, and tennis. It was shortly after he became a pharmaceutical chemist that Mr. Squire became associated with his father, and was gazetted jointly with him on December 31, 1867, to

"the place and quality of Chemist and Druggist upon Majesty Queen Victoria." This position Peter Squire had held from the



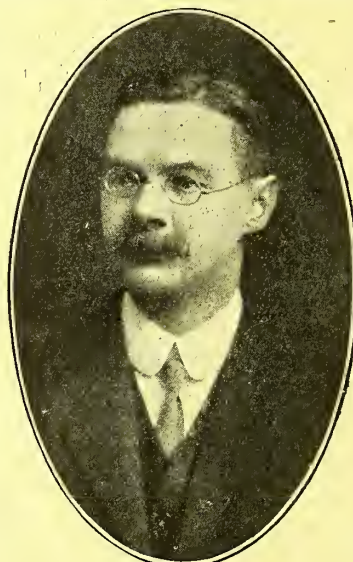
MR. P. W. SQUIRE,
F.C.S., F.I.C., F.I.S.

the Establishment in Ordinary to Her Majesty Queen Victoria." This position Peter Squire had held from the

Queen's accession in 1837, and when he retired in 1877 his son Albert Herbert Squire also received the appointment, and since his death Mr. P. W. Squire has been the sole Chemist and Druggist upon the Establishment in Ordinary. Mr. Squire was for several years a member of the Pharmaceutical Council, and it was in 1877 that his name first appeared on the "Companion to the British Pharmacopoeia," which was started by Peter Squire in 1864. The 1877 edition was the eleventh, and the one just published is the nineteenth. It is not necessary to repeat what has already been said of this most valuable book, for our present object is simply to express gratification that Mr. Squire continues with originality and vigour to supervise the production of this work, and thereby to be of service to pharmacy and British pharmacists all over the world.

MR. J. T. POWELL, Hatton Garden, London, has recently in Chester given a very instructive talk on the clinical thermometer to the men of the County Company, Voluntary Aid Detachment, the St. John Ambulance Association. The information was very instructive and much appreciated. Mr. J. H. Hopley, pharmacist V.A.D., 6 Northgate, Chester, who mentions the matter to us, will be glad to give more particulars to interested pharmacists.

DR. JAMES WALKER, F.R.S., who acted as principal host of the Society of Chemical Industry at Edinburgh last week, was Professor of Chemistry at University College, Dundee, for fourteen years before he succeeded Dr. Crum Brown, F.R.S., as Professor of Chemistry in Edinburgh University. He is a native of Dundee, and it was while he was a pupil of the High School there that Mr. Frank W. Young, the chemistry teacher, infected him so strongly with the science that he attended Mr. Young's Y.M.C.A. classes, and continued his studies in the Universities of Edinburgh, Munich, and Leipzig. After he came back to his own country he became one of Sir William Ramsay's workers at University College, London, at the time when Lord Rayleigh was curious to know why the nitrogen which he made by the chemical method differed in weight from nitrogen extracted from the air. Ramsay knew that Lord Rayleigh would not ask a question like that if there was not something in it. So he went to work, and he and his Lordship discovered argon. It seems like yesterday that Dr. Walker, fresh from the University College where he had seen the work, and on a Highland Railway Station, told us about it. While he held the Dundee Professorship Dr. Walker wrote his "Introduction to Physical Chemistry," and shortly after he got to Edinburgh his "Organic Chemistry for Students of Medicine" appeared. It is as a mathematician that the Professor particularly shines in chemistry, and the "Organic Chemistry" takes one back to student days, for it fascinates students of medicine and pharmacy by telling them what they ought to know in the way that one student tells another. Music is another subject that Dr. Walker likes. Dr. Leonard Dobbin is his principal assistant at Edinburgh University.



JAMES WALKER, D.Sc., Ph.D.,
LL.D., F.R.S.

SEARGENT-MAJOR PERCY R. LE POIDEVIN, R.A.M.C., son of Mr. J. R. Le Poidevin, chemist, 59 Bath Street, St. Helier, Jersey, has been gazetted lieutenant and quartermaster.

MR. J. A. FOSTER, F.I.C., the East Riding County Council analyst, having been injured as the result of an accident, and thereby rendered unfit for further service, has relinquished his commission in the Army and returned to work. In consequence the appointment of Mr. F. Hoyland as additional analyst is terminated.

GENERAL SIR NEVILLE LYTTELTON, G.C.B., inspected last Saturday a parade of the London regiment "The Queen's" (Royal West Surrey), which is doing excellent work in the training of cadets. Among the officers are several men who are connected with the drug and chemical trades. Lieutenant Alan Francis, director of The British Drug Houses, Ltd., and Secretary to the Chemists' Ball, was at last week's inspection. He has been promoted to

PRIVATE C. COLLINS, who is now in St. Mary's Hospital, London, suffering from shrapnel-wounds and the loss of an eye, was formerly with James Woolley, Sons & Co., Ltd., Victoria Bridge, Manchester.

LIEUTENANT G. CUMMING, of the South Lancashire Regiment, and son of Mr. John Cumming, chemist and druggist, Crewe, had recently returned to the Front and led his company into one of the enemy trenches. He is now missing.



LIEUTENANT FRANCIS.



SECOND-LIEUTENANT STEPHENS.



LIEUTENANT GAMBLES.

double-star grade, and is doing excellent work for "The Queen's"; as also is Second-Lieutenant Stephens, of May & Baker's, whose father spent his life in the drug-business and lived to be an octogenarian. Lieutenant J. C. Gambles is head of the firm J. C. Gambles & Co., manufacturers' agents and export merchants, London and Australia. Mr. Gambles is an old Volunteer with six years' experience in the 3rd Middlesex Artillery, but was unable to go on active service when the war broke out on account of business responsibilities and health reasons, being prone to attacks of colitis. It was after serving in the Public School Battalion (Old Boys Corps) that he was offered a commission in "The Queen's" Cadets.

CAPTAIN G. W. HARRIS, of a certain Field Ambulance now on the Front somewhere, is one of the few pharmacists who have by steady and good R.A.M.C. work attained his present rank, hence this note and portrait. In 1910, after serving in the Home Counties Field Ambulance (T.F.), he received his commission as lieutenant and quartermaster. Six years later he was promoted captain as the result of excellent work, the promotion being mentioned in the honours and award list in January 1916. Previously he was mentioned twice in despatches. As plain Mr. G. W. Harris, Ph.C., 12 Sun Street, Canterbury, the captain is well known to many in pharmacy; he is an efficient chemist, a thorough sanitarian,



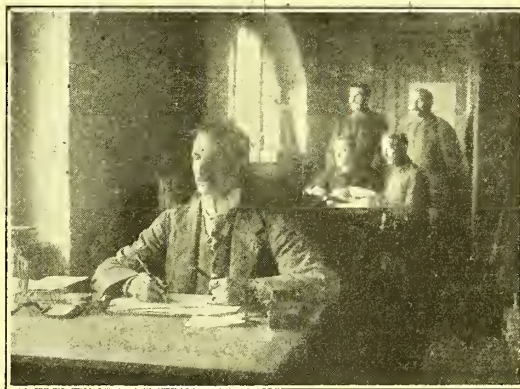
CAPTAIN HARRIS.

and in the midst of official duties his mind is not blinded to matters of climate, flora, and insect life, of which we may learn more after the war is over.

MR. W. MASKEW, Ph.C., has taken over the business of Quinneys, dealers in old engravings, china, and furniture, Fore Street and Market Place, Hertford. Mr. Maskew is well known to C. & D. readers from his articles on antiquarian subjects. He was born at Easingwold, and apprenticed at Scarborough. Afterwards he was an assistant with Wilson & De Castro, Belgrave, London, W., at Swann's pharmacy, Paris, and at Harrogate and Manchester. He passed the Minor in 1892, and the Major two years afterwards. Mr. Maskew was afterwards in business for himself at Manchester and Clacton. He has been an active worker in the public interest at Clacton, and since he gave up his pharmacy has been hon. pharmacist at the Middlesex War Hospital there. In his new venture we wish him every success, but at the same time we are sorry that he is for the present lost to pharmacy.

MR. A. S. CLUNIE, only son of the proprietor of A. Clunie & Co., druggists' sundriesmen, Manchester, has joined the Motor Machine Gun Section of the Army. He is just nineteen.

At the present time, when the manner in which British civil prisoners are being treated in Ruhleben is a daily topic, this portrait of Mr. Forrester is worth giving. The portrait was taken a few months ago, and Mr. Forrester regarded



MR. G. P. FORRESTER, F.C.S., IN RUHLEBEN.

it then as evidence that he was in good health. Some of that he owes to the fact that his wife, who, with their only son, is in London, is most assiduous in sending him English fare.

BARIUM PLATINOCYANIDE.—It has long been known that there are different varieties of barium platino-cyanide, and that the production of the kind which fluoresces freely under the influence of x rays is an art which the maker of fine chemicals values greatly. Dr. Leonard A. Levy ("Journal of the Röntgen Society," vol. xii., No. 46, p. 15) describes the different kinds, which include two crystalline varieties and an amorphous salt, all having the composition $\text{BaPt}(\text{CN})_4 \cdot 4\text{H}_2\text{O}$. The amorphous salt is brick-red and non-fluorescent, while the two crystalline salts, identical in form, are orange and apple-green, the last-named being very brilliantly fluorescent. The differences in the two crystalline forms are due to stereoisomerism. Dr. Levy also referred to the two forms of zinc sulphide, one of which displays fluorescence and phosphorescence, and in admixture with radium salts finds its chief application in the manufacture of luminous dials for watches and scientific instruments. The luminous form of zinc sulphide exhibits the property of triboluminescence—that is, gives out luminous flashes when gently rubbed with a pestle in a glass mortar. Intensifying-screens used in x -ray work are made with calcium tungstate.

Trade Report.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling and the like. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities. Retail buyers cannot, therefore, for these and other reasons, expect to purchase at the prices quoted here.

42 Cannon Street, E.C., July 26, 5.30 p.m.

As this issue closed for press on Wednesday evening further market news will be found in our Coloured Supplement, which also contains a report of the drug-auction held on Thursday. Meanwhile buyers are restricting their purchases to current wants, the continued absence of speculative operations in fine chemicals being noticeable. Citric and tartaric acids and cream of tartar are all a trifle weaker. Montreal potashes and potassium carbonate have been reduced, and other declines include easier rates for chloral hydrate, cocaine, hexamine, vanillin, lycopodium, squill, glucose, and starch-powder. Guaiacol carbonate, phenolphthalein, and sandalwood oil are dearer. Menthol, Japanese mint oil, and fenugreek are firmer to arrive.

Higher	Firmer	Easier	Lower
Guaiacol carbonate (Jap.) (c.i.f.)	Fenugreek-seed	Cocaine	Chloral hydrate
Mint oil (Jap.) (c.i.f.)	Menthol(c.i.f.)	Copper sulphate	Citric acid
Phenolphthalein	Wax, veget. (Jap.) (c.i.f.)	Cream of tartar	Coconut oil
Sandalwood oil		Gentian (forward)	Lycopodium
		Glucose	Potash carbonate
		Hexamine	Potashes (Montreal)
		Squill	Tartaric acid
		Starch powder	
		Vanillin	

ACETIC ANHYDRIDE is offered at 10s. 6d. per lb. in carboys.

ACETYL-SALICYLIC ACID is offered at from 37s. 6d. to 39s. 6d. per lb. for spot delivery.

ALOE.—The exports from the Union of South Africa during April amounted to 76,042 lb. (635%), against 30,141 lb. (286%) in April 1915. During the four months ending April 30 the exports were 406,239 lb. (3,663%), against 239,301 lb. (1,734%) in 1915.

AMIDOPYRIN is offered at from 63s. to 65s. per lb. net.

AMMONIA SULPHATE is firm at 16l. 5s. net naked at works in London for 25-per-cent. ammonia prompt delivery. Hull (prompt (24-per-cent.) is 5s. dearer, 17l. 7s. 6d., Liverpool is 17l. 15s., and Leith-Glasgow is 17l. 10s. per ton for prompt, and October-March, 17l. 15s., less 3½ per cent. in bags f.o.b.

ANISEED is unchanged at 53s. 6d. per cwt. for good Spanish.

ARECA.—The nominal price is 35s. per cwt.

ATROPINE.—A very limited quantity of sulphate is offered at 159s. to 160s. per oz.

BELLADONNA-ROOT.—Recent arrivals from British India testing 0.513 are offered at about 675s. to 680s. per cwt.

BENZALDEHYDE is offered at from 28s. to 30s. per lb.

BENZOATES remain firm at 23s. to 24s. for benzoic acid ex toluol and 19s. 6d. for soda benzoate.

BETANAPHTHOL is offered at 9s. 6d. per lb. in limited quantity.

BUCHU.—The exports from the Union of South Africa during April 1916 amounted to 34,427 lb. (5,705%), against 14,066 lb. (1,474%) during April 1915, and for the four months ending April 1916 the exports were 82,124 lb. (13,833%), against 89,811 lb. (13,844%) in 1915.

CANARY-SEED is lower at 63s. to 65s. per quarter for fair to good Morocco on the spot.

CARAWAY-SEED is scarce and firm at 97s. 6d. per cwt. for fair Dutch on the spot.

CASSIA LIGNEA.—Spot sales have been made at 55s. for fair. At auction 100 cases good selected loose quill were retired at 66s., and 200 bales good broken at 50s.; also 50 cases cassia-buds at 70s. per cwt.

CHAMOMILES are somewhat scarce on spot, fair white offer-

ing at about 170s., and it is not anticipated that the new French crop will open at less than 160s.

CHIRETTA.—Good bright is offered at 7½d. per lb. on the spot.

CHLORAL HYDRATE is more plentiful and prices are being cut by dealers, who quote from 9s. 6d. to about 11s. per lb. in bond for crystals.

CITRIC ACID is lower, closing at 3s. 5d. to 3s. 5½d. per lb. on the spot.

CLOVES are dull, with spot sellers of fair Zanzibar at 6½d.; to arrive, sellers quote 6½d. c.i.f., and September-November delivery 6½d.

COCAINE.—Practically all dealers now quote net prices, the value of hydrochloride being about 20s. per oz. It is expected that the Privy Council will require all sales to be registered.

COD-LIVER OIL.—Our Bergen correspondent writes on July 17 that several parcels of unrefined cod-liver oil were sold at prices equivalent to about 525s. to 550s. per barrel for non-congealing oil, but sellers have since withdrawn from the market. Newfoundland non-freezing 1916 is offered at 14s. 9d. per gallon for August-September or October shipment.

COPPER SULPHATE is easier at from 49l. to 50l. per ton for the usual Liverpool brands.

CORIANDER-SEED is steady at 19s. to 20s. 6d. per cwt. for ordinary to good Morocco. New crop is offering at 20s. per cwt. c.i.f. terms for shipment.

CUMIN-SEED.—The recent arrivals of new-crop Morocco have been sold at 80s. per cwt., and business is doing for July-August shipment at 67s. 6d. per cwt. c.i.f. terms, being steady.

DEXTRIN.—The value of good Dutch is about 50s. and Japanese, which is less esteemed, at 37s. 6d. Genuine Dutch *Farina* is scarce, the value being about 40s. and Japanese 27s. 6d.

DILL-SEED is quoted 30s. per cwt. for East Indian on the spot.

FENNEL-SEED is unchanged at 30s. per cwt. for fair quality.

FENUGREEK-SEED has sold steadily at 15s. per cwt. for fair Morocco on the spot, but holders are now asking 16s. in view of the higher prices reported ruling in Morocco.

GENTIAN.—Sellers for forward shipment are reluctant to lower their prices, asking from 70s. to 75s. per cwt., whereas spot values are from 80s. to 90s. and upwards.

GUAIACOL CARBONATE remains very scarce, several holders asking about 135s. per lb.

LEMON OIL is very quiet at from 3s. 6d. to 3s. 7d. per lb. c.i.f., and at from 3s. 8d. to 3s. 9d. per lb. on the spot.

LINSEED is rather scarce on the spot, and is quoted 75s. to 80s. per quarter for fair to good quality.

LYCOPodium.—The recent large arrivals have eased prices, spot being available at about 7s. 6d. per lb.

MENTHOL is rather firmer to arrive, the sales including Kobayashi and (or) Suzuki at 9s. 6d. to 9s. 9d. c.i.f. for July-August and August-September shipment.

The exports from Japan during April amounted to 24,536 kin, valued at 16,597 yen. During the four months ended April 30 the exports were:

	1914.	1915.	1916.
Kin	164,658	154,614	175,041
Yen	1,160,006	847,952	1,101,746

The destinations during the past three years were as follows:

	1914.	1915.	1916.
British India	6,947	11,267	5,738
Great Britain	34,584	36,740	82,533
France	9,501	28,094	30,552
Germany	64,709	—	—
United States	44,020	62,019	49,710
Other countries	4,898	16,494	6,508
	164,659	154,614	175,041

MINT OIL.—Japanese dementholised is firmer, the sales including Kobayashi and (or) Suzuki for July-August and August-September shipment at 3s. to 3s. 3d. per lb., c.i.f. terms.

NEROLI OIL.—The new cop of French of finest quality is offered at 10s. 6d. per oz.

OILS (FIXED).—*Linseed* is steady at 34s. 9d. in pipes on the spot, and 35s. 9d. in barrels. *Cottonseed* is dearer at 40s. for crude in pipes on spot, 44s. 6d. for refined in pipes, and 52s. to 54s. for sweet refined in barrels. *Rape* is firm; ordinary brown naked on spot is nominal. British refined in barrels is 48s. to 50s., and Japanese in cases 38s. c.i.f. for August-September shipment. *Coconut* is dull at 50s. for Ceylon in hogsheads on spot, and 48s. in pipes. *Cochin* on spot is 50s. to 52s., and London pressed is 42s. 6d. per cwt. *Hankow Wood* oil is 53s. spot. *Soya* is easier at 37s. 9d. c.i.f. for July-August shipment; *Hull* crushed is 40s., and extracted 39s. *Lagos Palm* is 40s. on spot, and 35s. in Liverpool.

PEPPERMINT OIL.—American tin oil has been in rather better demand, both on spot and forward, the value being 8s. 3d. per lb.

PHENOLPHTHALEIN for August-September shipment from New York, 77s. 6d. per lb. is quoted.

PILOCARPINE remains scarce, the value of hydrochloride being from 23s. to 25s. per oz. net.

POTASHES.—Montreal are easier, first Government brand offering at from 185s. to 190s. per cwt. on the spot.

QUICKSILVER closes firm at 17l. 12s. 6d. to 17l. 15s.

SODA HYPOSULPHITE.—Pea-crystals are offered at 17l. per ton in casks, ex wharf.

SOY is quiet at from 2s. 9d. to 2s. 10d. per gall., duty paid.

SQUILL is easier, good white offering at 72s. 6d. and brownish at 70s. per cwt. on the spot.

TANNIC ACID.—Leviss (U.S.P.) is offered at 4s. 11d. per lb.

TARTARIC ACID.—Powder is plentifully offered, and prices show some irregularity according to stock held by seller. Crystals are comparatively scarce at 2s. 5d. spot.

TURPENTINE closes easier at 40s. 4½d. per cwt. for American on the spot.

VANILLIN is offered at from 35s. to 36s. per lb. on the spot.

American Peppermint Oil.

Mr. F. M. Rudd, Bronson, Mich., writing to his London agents (R. W. Greeff & Co.) on June 24, says: "Peppermint is working into a firmer position, owing to the damage done by continued and heavy rains. The appearance of the plant does not encourage the belief that a heavy crop of oil will be harvested this fall. There might be changes in the weather conditions that will improve the prospective yield, but it is more than likely that we will only have a moderate-sized crop, in which event the price will do better."

Chemical Prices in Switzerland.

The following are the market prices of some of the more important pharmaceutical chemicals in Switzerland in January 1914 and at the end of May 1916. The list is published in the "Schweizerische Apotheker Zeitung" of June 22:

	January, 1914	End of May 1916	Percentage Increase
	Fr.	Fr.	
Acetylsalicylic acid kilo.	6.50	37.50	570
Amidopyrin 100 gr.	4.50	18	400
Ammon. bromide kilo.	6.50	75	1,100
Antipyrin "	20.50	56	270
Antipyrin and caffeine cit. "	27	69	250
Antipyrin salicylate "	15	44	300
Bismuth salicyl. "	23	70	300
Bismuth subgaill. "	18	58.50	300
Bismuth subnit. "	23.50	50	210
Boric acid "	1.50	2.70	180
Bromoform "	14	60	420
Caffein sodium benz. "	28	85	300
Caffein sodium salicyl. "	28	85	300
Carbolic acid cryst. "	2.40	8	350
Chloroform "	2.65	8.50	280
Cocaine hydrochlor. 100 gr.	27	64	230
Codeine phosph. "	42.50	85	200
Cresol soap kilo.	0.90	2.50	280
Diethylbarbituric acid "	50	185	370
Dimethylamidoantipyrin "	37	97.50	260
Glycerin "	2.45	5.90	240
Hexamethylenetetramine "	7.50	26	360
Linseed "	0.85	1.70	200
Methyl salicylate "	4.80	24	500
Morphine hydrochlor. 100 gr.	42.50	80	190
Phenacetin kilo.	9.00	70	800
Potassium bromide "	5	60	1,200
Potassium sulphocyanide "	15	32.50	220
Quinine hydrochlor. 100 gr.	8	22	270
Quinine sulphate "	6.75	16.70	240
Salicylic acid kilo.	3.70	31.50	850
Salol "	6.75	47.50	730
Sodium bromide "	6	70	1,200
Sodium salicylate "	4.50	40	900
Theobromine sod. salicyl. "	38	135	350

Bromides have changed in price since the above list was published.

East Indian Sandalwood Oil.

In the course of the "Progress Report of Forest Administration in the Mysore State" for the twelve months ended June 30, 1915, it is stated that, "with the declaration of war, the auction-sales, which were as usual notified to take place in November and December 1914, were postponed to the following March. The sales then proved abortive, owing to the disturbed economic conditions. There being, however, a limited demand for sandal-

wood required for ceremonial purposes in India, inquiries were made by some merchants after the sales asking for lowest quotations, while some others went so far as to submit tenders offering low rates. With a view to maintaining the high level in rates, which had only been built up after patient and persistent endeavours extending over a number of years, it was resolved to sell the wood at fixed rates, and as offers for fairly large quantities of wood began to come in both from European and Indian merchants, these special sales were subsequently extended to September 15, 1915; the total quantity of wood sold during the year was 367 tons 4 cwt. The question of manufacturing sandalwood oil in the State was taken up during the year, and, with a view to ascertaining the percentage of oil in the different classes of wood, 1 ton 2 cwt. of Ghotla and 18 cwt. of nine other classes of wood were sent to the Indian Institute of Science at the instance of Professor Sudborough, who found that the oil contents varied from 3 per cent. in sawdust to 5.8 per cent. in first-class roots. Later the Government accepted the offer of the Professor to undertake certain inquiries in England in regard to the manufacture and disposal of sandalwood oil, and the results of his investigations are awaited.

Lycopodium.

According to data supplied by the Russian Military Industrial Committee, and published in "The Financier," the quantity of lycopodium gathered in 1915 was poor—only 3,000 poods. The inland demand in 1915-16 was about 1,000 poods, including about 675 poods for pharmaceutical purposes, the rest being for other industries. The quantity exported in October, November, and December 1915 was about 1,000 poods leaving a balance of 1,500. Since the autumn of 1915 no permission has been granted to export lycopodium to neutral countries, but it is going regularly to the Allies. Stocks are in the hands of firm holders and the prices have improved to 50r. to 60r. per pood. In January 1916 it was offered at 35r. in Moscow, but by May it had reached 56 roubles 50 kopecks. For the purposes of comparison the following prices for the last five years are given: 1911, 30r. to 35r.; 1912, 32r.; 1913, 30r.; 1914, 29r.; and 1915, 33r. to 40r.

Continental Drug and Chemical Markets.

The following notes chiefly refer to the Hamburg and Berlin markets under date up to June 15:

AGAR-AGAR is extremely scarce, and prices have steadily advanced to m.19.75 to m.20 per kilo. The War Department has for the second time commandeered supplies.

ALUM.—Crystals have been advanced by m.7.50 per 100 kilos., powdered by m.4.50 per 100 kilos.

AMMON. CARB.—The quantity offered exceeds the demand; prices vary between m.150 and m.160, but are expected to become lower.

AMMON. CHLOR. is advancing, as the demand is increasing rapidly. For c.p. ammonium from m.100 to m.105 must be paid.

AMYL ACETATE has advanced by 20m. per 100 kilos.

ANISE (STAR) is scarce, and prices have advanced to from m.565 to m.570 per 100 kilos.

BALSAMS.—*Peru* is m.56 to m.58 per kilo. *Tolu* is firm at from m.9 to m.9.50 per kilo.

BROMIDES are offered at extremely low prices by some makers, but the quantities obtainable are extremely small. Sodium is m.185 and potassium m.150 to m.160.

CARAWAY-SEED.—Dutch has been active in consequence of increasing prices and difficulties of importation from Holland. From m.225 to m.230 is quoted.

CERESIN is extremely scarce. Natural yellow and orange is from m.400 to m.420 per 100 kilos, and first white from m.430 to m.450.

CEVADILLA remains very active, though prices are extremely high at m.450 to m.460.

CINNABAR has been advanced by m.1 per kilo. to m.10.50.

CITRIC ACID.—The demand is increasing, and the price has advanced to m.15 per kilo. for crystals.

CLOVES.—Zanzibar are offered freely, and prices are lower at m.480 to m.490 per 100 kilos. for fair.

CONDURANGO is advancing in price: first natural bark is m.185 to m.190 and first sifted bark from m.195 to m.200.

COUMARIN is offered at m.75 per kilo.

CREAM OF TARTAR has greatly advanced in price of late. Chemically pure is m.850 to m.860. 99 to 100 per cent. m.836 to m.840. 90-per-cent. m.820 to m.830, and 85-per-cent. m.810 to m.820.

DEXTIN.—Prompt delivery is not obtainable direct from the factories. The demand is very active, and for the small lots that are still offered m.165 to m.170 is asked.

FENCREEK-SEED is very scarce at from m.255 to m.260 per 100 kilos.

GUM ACACIA is firm but quiet at m.400 to m.410 for natural, and better qualities at from m.420 to m.440 per 100 kilos.

THYMOL is still obtainable at m.80 per kilo.
TURPENTINE.—American and French are unobtainable. Swedish is offered at m.350 to m.375, and Greek at from m.450 to m.475.

Arrivals of Chemicals, Drugs, etc.

THE following is a selection of arrivals during the period July 17 to 24, inclusive, in the English ports named. Goods in transit are not included. The figures refer to the packages—e.g., cases, bags, barrels, boxes, kegs, etc. The weights, when known, are specified:

<i>To London.</i>	Honey (Fr.) 40 cks., (Amst.) 100 brls.	Aniline dyes (N.Y.) 6 brls.
Albumen 228 cs.	Linseed (E.I.) 96,943 bgs.	Antim. ore 121
Alcohol, wood (U.S.A.) 289 dms.	Liquorice (U.S.A.) 105 cs.	Arachis oil 7,640 cs.
Aloes (Cape) 207 cs.	Medicines (N.Y.) 20 cs., (Jap.) 50 cs.	Argol (Port.) 705 bgs. 16 cks.
Ammon. nit. 200 cks.	Mercury saits (Genoa) 30 cs.	Barytes (Sp.) 1,997
Antim. ore (Chile) 1,184	Milk-powder (N.Y.) 120, (Halifax) 224 dms., (R'dam) 50	Calabar beans 17
Arsenic (Port.) 53	Milk-sugar (N.Y.) 35 brls., (Amst.) 100 cs.	Calc. acetate (U.S.A.) 5,712
Barytes (It.) 750	Nux vom. 1,406 pockets	Calc. nitrate 314 cks.
Burgundy pitch (U.S.A.) 5 cs.	Olive oil (Sp.) 12 brls., (Genoa) 53 pkgs., (Fr.) 42 cs.	Canary-seed 250
Calc. borate 2,981 cs.	Opium (B'bay) 25 cs.	Caraway-seed 53
Camphor (Amst.) 22 cs.	Panopeptone (N.Y.) 50 cs.	Castor oil (E.I.) 100 cs.
Canary-seed 600	Patchouli oil (Amst.) 2 cs.	Coconut oil (Coch.) 4,472 cs. 38 hds.
Caraway-seed 100	Pepper (Cey.) 50, (S'pore) 2,195	Cod oil (St. John's) 363 cks.
Cardamoms 145	Petrolatum 65 brls.	Copra 720
Casein (Fr.) 1,061, (E.I.) 113, (Amst.) 10 dms.	Potash chlor. (Genoa) 200 pkgs.	Cottonseed 97 tons
Cassia-bark 79	Potassium (Swed.) 42 cs.	Cream of tartar (Fr.) 60 cks.
Cassia-leaves (Cey.) 140 pkgs.	Pyro. acid (N.Y.) 10 pkgs.	Di methyl aniline (N.Y.) 12 dms.
Chemical products and drugs (U.S.A.) 103 cs. 1,221 pkgs., (Fr.) 153 pkgs. 40 cks., (Genoa) 17 cs.	Quicksilver (N.Y.) 100 bott.	Drugs (N.Y.) 19 cks. 50 pkgs.
Chem. prod. and perf. (Fr.) 15 cs.	Rape-seed 22,133 bgs.	Drugs and herbs (N.Y.) 735 pkgs.
Chillies (Jap.) 9	Roots, barks, herbs, etc. (N.Y.) 40 pkgs., (Fr.) 174 bks., medicinal-leaves (Valparaiso) 175 brls.	Essent. oils (N.Y.) 5 cs.
Cinchona (E.I.) 663, (Amst.) 626 brs. 9 cs., (Lisbon) 134	Saffron (Sp.) 3 cs.	F o r m a l dehyde (Mont.) 118 brls.
Cinchonine (Amst.) 12 cs.	Saltpetre (E.I.) 2,806	Geranium oil (Fr.) 6 dms.
Cinnamon l. oil (Cey.) 5 cs.	Senna (Tr.) 1,419	Ginger (Coch.) 177 bgs.
Citronella oil (Java) 38 dms.	Shellac 150 cs.	Glucose 1,500 bgs. 120 brls.
Coconut oil (Coch.) 263 pps. 91 hds. 2,982 cs.	Soda bichrom. (Amst.) 8 cks.	Glycerin (Mont.) 4 dms., (Boston) 15 dms., (N.Y.) 6 dms., (Fr.) 244 dms.
Cod oil (Jap.) 500 cs.	Soda hypo. (N.Y.) 600 brls.	Ground-nuts 2,664 bgs.
Cod - liver oil (R'dam) 150 cs.	Soda nitrate 46,324 bgs.	Herbs (Fr.) 20 brls.
Colza oil (Jap.) 5,000 cs.	Soda pruss. (Amst.) 20 cks.	Honey (Colon) 411 brls., (N. Orleans) 314 cs., (Fr.) 40 brls.
Copra 2,396	Soda salicyl (U.S.A.) 5 cs.	Lactic ac. (Boston) 136 brls.
Cream of tartar (It.) 20 brls., (Fr.) 5 cks.	Soya oil 9,055 cs. 479 pkgs.	Linseed (E.I.) 9,940 bgs.
Cubebis (S'pore) 33	Tannic ac. (N.Y.) 10 brls.	Magnesite 3,200 tons
Drugs (Fr.) 40 cs., (U.S.A.) 10 cs.	Tartar (It.) 128 cks.	Milk - powder 750 brls.
Essent. oils (Amst.) 12 cs., (N.Y.) 15 cs., (Sp.) 17 cs., (Genoa) 20 cs.	Tartaric ac. (It.) 494 brls. 26 cks.	Olive oil (Sp.) 10 brls., (Fr.) 5 cks. 243 cs.
Eucalypt. oil (Cochin) 2 dms.	Thorium nit. (U.S.A.) 36 bxs.	Orchella 31
Fig syrup (U.S.A.) 3,900 cs. 8 brls.	Turmeric (E.I.) 186	Palm-kernels 61,477 bgs. 215 tons
Fish oil (Jap.) 8,000 cs.	Turpentine 7,775 brls.	Palm oil 856 cks.
Formaldehyde 221 brls.	Wax, bees' (Cal.) 50 cs., (Sp.) 21	Rape-seed 16,745 bgs.
G. copal 200 bgs. 33 brls.	<i>To Liverpool.</i>	Roots, barks, herbs, etc. (N.Y.) 163 pkgs., (Fr.) 34 brs. 15 bgs.; leaves 44 brs.
G. damar 50 cs.	Acetic acid (N.Y.) 197 brls., (Boston) 66 brls.	Salt-petre 1,000
Gums, undescribed (Fr.) 30	Alcohol, wood (U.S.A.) 90 dms.	Soda nit 190 cks.
Ginger (Jap.) 280		Tartar (Fr.) 42 cks.
Herbs (Cape) 93 bgs.		Vanilla ext. (N.Y.) 10 cs.
		Wax, bees' (Port.) 539
		Whale oil 16,698 brls.

To Bristol.—Cream of tartar (Fr.) 24 cks. *To Folkestone.*—Drugs (Fr.) 95 pkgs.; perfumed spirits 4 cs.; perfumery (Fr.) 30 pkgs. *To Goole.*—Aniline colours (Fr.) 11 cs. 320 cks. 12 dms.; betanaphthol (Fr.) 12 cks.; phenacetin (Fr.) 5 cs.; tannic acid (Fr.) 23 cks. *To Hull.*—Chemical products (Fr.) 507 bgs.; linseed (E.I.) 49,278 bgs.; rape-seed (E.I.) 15,397; sulphur 14 bgs. *To Manchester.*—Aniline oil 109 dms.; aniline salt 21 cks.; antimony salts (Rouen) 11 cks.; calcium phosph. (Boston) 85 brls.; carbon black 300 cs.; chemical products (N.Y.) 114 pkgs.; coal-tar prod. 22 cs.; cottonseed (A'dria) 5,197 tons; drugs (U.S.A.) 12 pkgs.; formic acid (R'dam) 144 brls.; glucose 1,619; glycerin (U.S.A.) 7 dms.; olive oil 173 brls.



Letters for this section should be written on one side of the paper only. The writer may adopt an assumed name for purposes of publication, but he must in all cases furnish his real name and address to the Editor.

Cocaine Sales.

SIR.—The cocaine prosecutions of last week are doubly satisfactory to pharmacists, in that they do not in any way implicate us in this nefarious traffic, and will undoubtedly lead to a stricter enforcement of the law regulating the sale of such substances, and very probably to a strengthening of the law itself. The latter may appear a doubtful advantage to those who most feel the irksomeness of the present law, but in reality every increase in the scope and stringency of the Poisons Schedule strengthens our position, directly or indirectly, and anything that gives us additional power in this direction with the Privy Council is so much to the good. But we must not forget that a corresponding increase of responsibility is thus laid upon us, and that these prosecutions are a warning to increased care in the handling of all poisons. It was stated in evidence that boxes containing only about 1½ grain of cocaine were sold in one case at 2s. 6d. each, and in another at the rate of three for 10s., and it is certain that while such enormous profits can be got out of it there are plenty of clever and unscrupulous persons who will leave no stone unturned and no artifice untried to get hold of the stuff. We must take care they do not get it from us. Strict adherence to the law must be supplemented by such additional precautions as our own experience suggests. The newspaper clamour of the last few weeks shows how recklessly, and with what ignorance both of the facts and of the law, any injurious suspicion, however baseless, may be made an occasion for "copy" by a sensational Press. Yours truly,

H. W. B. (20/13.)

Pharmacy in Egypt.

SIR.—The European War will be over sooner or later, and Egyptians will be able to look forward to an era of peace and commercial prosperity. We all hope, therefore, that our Government will devote its attention to introducing fundamental and useful laws and necessary changes on which we may be able to build up the expected scientific success of our country. It is to be hoped that pharmacy as a profession will have its share of reformation and the greatest attention of professional authorities. Egypt certainly is in great need of strict laws, which we, as Egyptians loyal to our country and our profession, should unite in supporting, in order to put an end to the vague ideas of the pharmacists of the old régime, whom our inadequate laws have hitherto allowed to deceive the public and disgrace an honourable profession. They adulterate their drugs, and in dispensing and compounding prescriptions they pay more attention to their own profits than to the doctors' instructions. In these and many other ways they violate the laws with impunity. There is no doubt that all these dangerous malpractices are due to misinterpretation of the law, or are the result of taking advantage of our not having a complete and official Pharmacopœia of our own. I admit that the Government, recognising these facts and being fully aware of the dangerous effects of the abuses of the laws, has appointed able and most intelligent representatives and inspectors whose duty it is to condemn illegal practitioners, and they really have proved themselves worthy of such responsible offices; but I am sure that the evil will continue until the Government issues an official book to be followed by physicians in their prescription-writing, and pharmacists in making up their preparations, or adopts either the British Pharmacopœia or the French Codex, which are the books chiefly used in Egypt. A Pharmacopœia is the only safe guide to those engaged in preparing medicines of uniform standard. Every other civilised country recognises only one Pharmacopœia, but pharmacists in Egypt are compelled to follow the Pharmacopœias of all countries, which causes a great deal of unnecessary labour to the conscientious members of our profession. The state of affairs in our country is, I hope, unique. I am the manager and proprietor of a well-known establishment. Before settling in Egypt I had several years' experience in the United States of America, but I have had quite novel experience here. I have come across strange prescriptions containing names I had never seen or heard of before, signs and symbols known only to the druggists and the doctors with whom they were in

collusion. Secret symbols are only some of the means which the doctors and druggists employ to get control of the trade, and our laws are so "liberal" that they can do these things with but little interference. The following example will give the reader some idea of the great responsibility of a pharmacist:

Tinctura Iodi of the B.P. is 2½ per cent., of the U.S.P. 7 per cent., and of the French Codex 10 per cent., and unless the physician's prescriptions follow the Pharmacopœia according to which they are to be made up the pharmacist has to lose his valuable time in getting the necessary information to avoid dangerous effects. Certainly this could be avoided if doctors would take a little trouble in stating the Pharmacopœia to be followed on their prescriptions. I could give many more similar examples, but space forbids.

Yours faithfully,

Tanta, Egypt, July 11. AHMED EL AGUIZY, P.D.

Londonderry Chemists.

SIR.—How long will Londonderry chemists allow their establishments to be made the dumping ground of the quack-medicine vendor? It is all our own fault, as we have no association, no intercourse, no friendly business chats whatever, each one allowed to gang his own gait. The other day I received a letter from a proprietor offering the munificent sum of 6d. on the 2s. 6d. article—principally, compared with the profit on certain other articles. Some years ago an attempt was made to form an Association in Londonderry; a meeting was called and nobly responded to; a chairman appointed, but something went wrong, and the whole house of cards collapsed. I believe the same gentleman who then acted as chairman would, if asked, occupy a similar position. Brother pharmacists, there are a lot of things want straightening out, so hurry up. Put your heads together; call a meeting, and proceed to business.

Yours, etc.,

PHARMACIST. (18/23.)

Subscribers' Symposium.

For interchange of opinion among "C. & D." readers, and brief notes on business and practical topics, especially new ideas.

Ciceronian Motto for the "Uplifters."

"Magnus est in reipublica (pharmaceutica) campus; multis apertus cursus ad laudem" (There's a big field in pharmacy for the many who desire an open road to distinction), is how C. C. (54/24) puts it.

Jay Mackisms

(as he writes them).

1. Easy to see why Miss Buchanan came out top at the Cave of Adullam, as "Xrayser" calls it.
2. She was the only retailer among the chief speakers; the rest were wholesalers, analysts, or scientists.
3. Ever since 1868 we have been pestered with men who were NOT shopkeeping chemists, and they have CREATED our troubles for us.
4. We never hear Boot ranting about "recognition," "social status," etc.: these things are diseases of disgruntled retailers only.
5. These men leave our trade, but they won't leave it alone. Not one of them is any good to us, yet they always come back.
6. Miss Buchanan's conference of business men and teachers will not include the true Adullamites; but they will try to get in.

Appreciations of the "C. & D."

"It is the best medium I receive for pharmaceutical news of the world." So writes a Canadian subscriber (13/9).

"I must say that the value of a journal like the C. & D. is inestimable, and I can assure you I greatly appreciate the information, etc., which I have always obtained through it." So writes A Dublin Pharmacist (6/36).

M.P.S. (128/1), in renewing his subscription to the C. & D., writes: "Your paper is too progressive to be discontinued, and its liberal views cannot but appeal to all fair-minded men. I read it every week, and gain business acumen thereby."

Home-made Hyd. c. Cretâ.

Mr. G. Bernard Savage (Brighton) writes regarding the note by "Periscope" (20/30): "You may be interested in our experience of home-made hyd. c. cretâ. After an hour and a half's trituration apparently it was all that could be wished for. A patient of one of the leading doctors took 2-gr. powders thrice daily for fourteen days with absolutely no effect. The doctor complained to us and recommended us to change the source, and we pro-

cured some from the B.D.H. The patient found within three days a considerable difference, and was at once subject to the inconveniences of mercury. We believe that it requires hours' trituration before the article is absolutely completed."

We All Know her!

Chemist, observing Miss Jimson making for his pharmacy door: "Here's this old nuisance again." Miss Jimson, in a feeble, cracked voice: "Just closing, are you? I sha'n't keep you more than a minute. I've got a dreadful cold again. What can you recommend?" Chemist, who knows it is a forlorn hope, mechanically picks up a bottle of balsam. "This is an excellent preparation, Dr. Baldy's Cough Balsam, which costs only 1s. 3d. per bottle." Miss Jimson: "I remember the dear old doctor so well! He used to walk with his toes turned in, like so many other clever men." Chemist (to himself): "You know more about him than anybody else ever knew!" Miss Jimson: "You are sure it is one of his best recipes. At night, you know, my throat is so—" Chemist: "I sell a thousand bottles per annum." Miss Jimson: "Some people can't discriminate, though. One-and-three, you said? As a matter of fact I wanted a few lozenges or jujubes. I've only got a few coppers in my purse. Give me a pennyworth of morphia and ipecacuanha lozenges." Chemist (shortly): "Can't sell these except by prescription." Miss Jimson, reluctantly laying down a penny: "Give me some sweets, then, which contain a little glycerin, paregoric, and other useful ingredients." (25/23.)

Dispensing Difficulties and Notes.

Readers are advised to consult "The Art of Dispensing" in regard to compounding difficulties. We welcome fresh problems and invite the co-operation and correspondence of dispensers in their elucidation.

Bismuth Mixtures.

M. E. H. (20/1) writes: "I should like your comments on these two bismuth mixtures:

I. Bismuth. carb. ...	gr. xx.
Sodii bicarb. ...	gr. x.
Mucilag. ...	℥ xx.
Glyc. ac. tannic. ...	5ss.
Aq. ad ...	5j.

"This turns green on standing."

[The green colour is the result of reaction between the tannic acid and sodium bicarbonate. It occurs, as you may have observed, at the surface of the liquid, and becomes more intense as oxygen is absorbed from the air. If the sodium bicarbonate, glycerin of tannic acid, and water be mixed and left in an open test-tube the colour is more rapidly developed than when the mixture is corked up in a bottle. The colour is produced when tannic acid is used instead of glycerin of tannic acid. Concurrently with production of colour there is formation of a precipitate of sodium tannate. The colour of this precipitate is light yellow, and in a bottle of the complete mixture the sodium tannate is observable deposited as a yellow layer on the top of the bismuth carbonate which had settled down earlier.]

II. Liq. bismuth. et amm. cit. ...	5j.
Sodii bicarb. ...	gr. v.
Liq. morph. mur. ...	℥v.
Ac. hydrocyan. dil. ...	℥iiss.
Tinct. card. co. ...	℥xv.
Aq. dest. ad ...	5ss.

"This slowly loses its bright colour, becomes cloudy, and finally yields a thick precipitate."

[Alkalies gradually alter the colour (cochineal) of compound tincture of cardamoms, ammonia discharging it altogether. The cloudiness is due to the initial stages of the precipitate which finally settles. Precipitate in a mixture containing solution of bismuth and ammonia citrate and sodium bicarbonate takes longer or shorter time to form, depending on the proportion of these two constituents and the dilution of the mixture, but is ultimately inevitable.]

Legal Queries.

The majority of difficulties in regard to trade law are explained in the legal section of "The Chemist and Druggist Diary," 1916, beginning on page 341.

S. V. W. (14/28).—"Pharmacy" as a description of premises may be used by any person whether a chemist and druggist or not. See C. & D. Diary, 1916, p. 345.

T. S. (254/34).—Black beer is "beer" legally, but it is exempt from licence-duty by the Licensing Act, 1872. Under this exemption the sale of the beer by unlicensed persons at any time has been the practice, and special war conditions have not been applied.

H. W. H. (27/27).—If you hold no wine-licence or other off-licence for the sale of intoxicating liquors do not worry about the Board of Control Order as to wines and spirituous medicines, as it applies to licensed premises. We do not say "only," because the Board has added things to the prohibitive statement the proper interpretation of which will be seen in practice. It is quite impossible to determine what proprietary medicines are spirituous, but you may take it that few of them are affected by the Order.

Inquirer (23/46).—So far as the Poisons and Pharmacy Act is concerned, your statement in regard to the coca-content of the preparation is confusing. We may point out that preparations containing 1 or more per cent. of coca alkaloids are in Part I. of the Poisons Schedule, and preparations containing more than 0.1 per cent., but less than 1 per cent., of coca alkaloids are in Part II. of the Schedule. In both cases labelling is necessary. Your formula shows that the tablets contain 1 gr. of extract of coca in each. A common strength for this extract is 2½ per cent. of cocaine, and this means that if yours contains about that amount the alkaloidal content will be less than 0.025 per cent. in each tablet, so that it is outside the Poisons Schedule. We would point out, however, that the Army Council Order of May 9 prevents the sale of the tablets to any member of his Majesty's Forces, unless prescribed by a registered medical practitioner.

Miscellaneous Inquiries.

W. F. S. (5/54) has a son attending a technical college, and the lad wants to become a chemist in the laboratory of a wholesale chemist. He wants to know what course he should follow. We presume that what the lad means by wholesale chemist's laboratory is one attached to a wholesale druggist's establishment, in which the manufacture of galenical preparations is the principal work. For this the first essential is an all-round knowledge of pharmacy. Therefore the lad should have at least three years' experience in a retail pharmacy and pass all the examinations of the Pharmaceutical Society. After the Minor, and while preparing for the Major, he should give special attention to chemistry. It is therefore advisable that the lad should, before entering a retail pharmacy, pass an examination in general education which is recognised by the Institute of Chemistry as well as by the Pharmaceutical Society, in order that he may, after becoming a pharmaceutical chemist, take the examinations of the Institute, probably also the examinations for a degree in science, this altogether depending upon his vocation and the means that he can command.

J. S. (1/19).—FIRE-EXTINGUISHING POWDER.—This is a mixture of sodium bicarbonate and lime. The following are the analyses of some of these preparations which are given in the Home Office Report on fire-extinguishers:

	Sodium Bicarbonate	Calcium Carbonate
"Kyl-Fyre" (1) ...	46.62	50.25
"Galvo" (2) ...	50.40	46.50
"Galvo" ...	42.40	0.80
"Diamond" ...	55.44	10.25

C. A. S. (10/40).—(1) JENKINS'S TOOTH-PASTE.—The formula for which you ask is as follows:

Soap in powder ...	33 parts
Calcium carbonate, precipitated ...	25 parts
Absolute alcohol ...	20 parts
Glycerin ...	15 parts
Benzoic acid ...	3 parts
Eucalyptus oil ...	2 parts
Peppermint oil ...	2 parts
Saccharin ...	½ part
Thymol ...	½ part

Make into a paste.

(2) Glucose and honey are unsuitable as excipients for tooth-pastes on account of the liability to ferment. Glycerin not being available for the purpose, we suggest a solution of gelatin (1 in 35).

Demo (12/48).—We do not quite gather what it is you require. To make your own matches would not be cheaper than buying them even at present prices.

M. P. S. I. (24/5).—The customer who has acquired the CHLORODYNE-HABIT through taking a dose of chlorodyne regularly in order to prevent diarrhoea should be encouraged to break off the habit gradually. He can begin by taking, instead of a teaspoonful of chlorodyne, a teaspoonful of equal parts of chlorodyne and tincture of catechu every morning. This may be taken for three weeks, then have the chlorodyne dose still further reduced—namely, to 1 part of chlorodyne and the same of tincture of catechu, and make up to 4 parts with treacle and spirit of peppermint. Three weeks later omit the chlorodyne altogether, replacing with treacle and carminatives.

M. J. M. (259/58).—(1) GOUT AND RHEUMATIC PILLS:

Pulv. aloes barb. ...	1 oz.
Ext. colch. acet. ...	1 oz.
Ext. hyoscy. vir. ...	1 oz.
Pil. hydrarg. ...	½ oz.

Misce. Dose: 4 to 8 gr.

(2) STOMACH AND INDIGESTION MIXTURE:

Pepsin. solubilis ...	gr. xij.
Bismuth. et ammon. cit. ...	gr. xxiv.
Glycerin. ...	3ij.
Syr. simpl. ...	3ij.
Inf. gent. co. conc. ...	3iv.
Liq. cocci ...	q.s.
Aq. chlorof. ad ...	3vj.

Misce. 3ss. pro dosis.

Thankful (7/7).—(1) PINE-INHALANT.—The formula you require is as follows:

Cajuput oil ...	1 oz.
Ether ...	1 oz.
Menthol ...	60 gr.
Eucalyptus oil ...	1 oz.
Pine oil ...	1 dr.
Terebene ...	1 oz.
Camphor ...	40 gr.

(2) RUBBING OR HEALING OINTMENT:

Thymol ...	80 gr.
Camphor oil ...	1 oz.
Eucalyptus oil ...	3 oz.
Origanum oil ...	4 dr.
Yellow beeswax ...	9½ oz.
Chlorophyll ...	½ oz.

J. M. C. (258/36).—(1) Leguminous seeds do not contain oxalates. The chief food containing oxalates is rhubarb-stalks, which on this account are contra-indicated for persons of gouty diathesis. (2) WHOOPING-COUGH LINCTUS.—The following is a modern recipe:

Fluid extract of thyme ...	3x.
Sodium bromide ...	3j.
Glycerin ...	3j.
Syrup ...	5ivss.

All by weight. Dose: From half to one teaspoonful three or four times a day.

Retrospect of Fifty Years Ago.

Reprinted from "The Chemist and Druggist," July 14, 1866.

"Indian Essence."

More than two pages of the issue were devoted to a report of proceedings by the Commissioners of Inland Revenue taken under 25 and 26 Vic., chap. 91, secs. 5 and 6, against a retailer who sold Indian essence made with methylated spirit, the Commissioners proceeding on the grounds that the defendant (1) sold methylated spirit without a licence, (2) sold certain methylated spirit coloured and flavoured to be used as a beverage. The Magistrate dismissed the case, stating that "the judgment was subject to appeal, and he was very glad that it could be appealed against, both as regarded facts and law." [Fifty years ago the belief existed in pharmacy that it was legal to make and sell any medicine with methylated spirit. The case illustrates this well. Expert witnesses were Mr. William Harkness and Mr. Richard Bannister, of the Government Laboratory, for the prosecution, and Professor Hill, Birmingham, for the defence. The last-named deposed that the ingredients in the essence were Scotch treacle, golden syrup, sweet spirit of nitre, essence of ginger, essence of capsicum, infusion of gentian, and chloroform. The fact that it was made with methylated spirit was not denied, but there was difference of opinion in the trade as to the legitimacy of the practice. Subsequently by fresh powers this use was restricted greatly.—EDITOR C. & D.]

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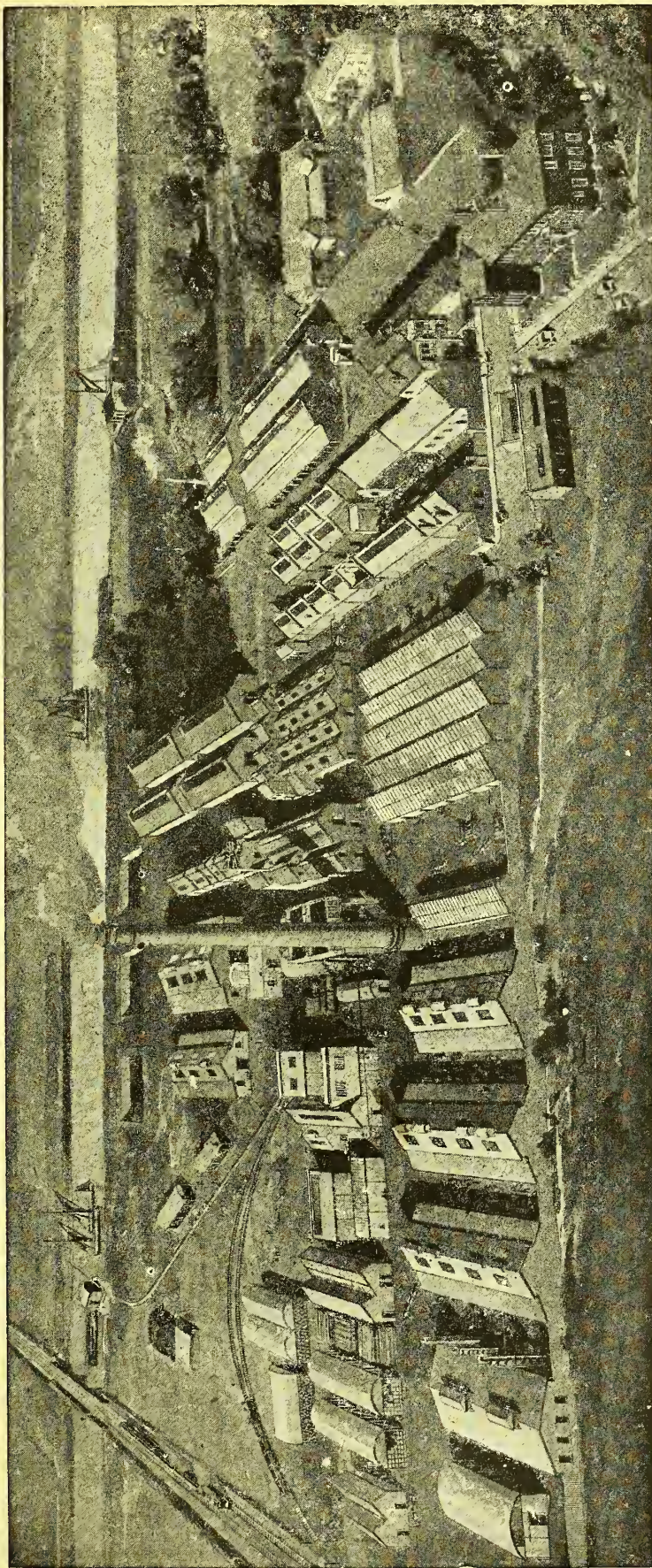
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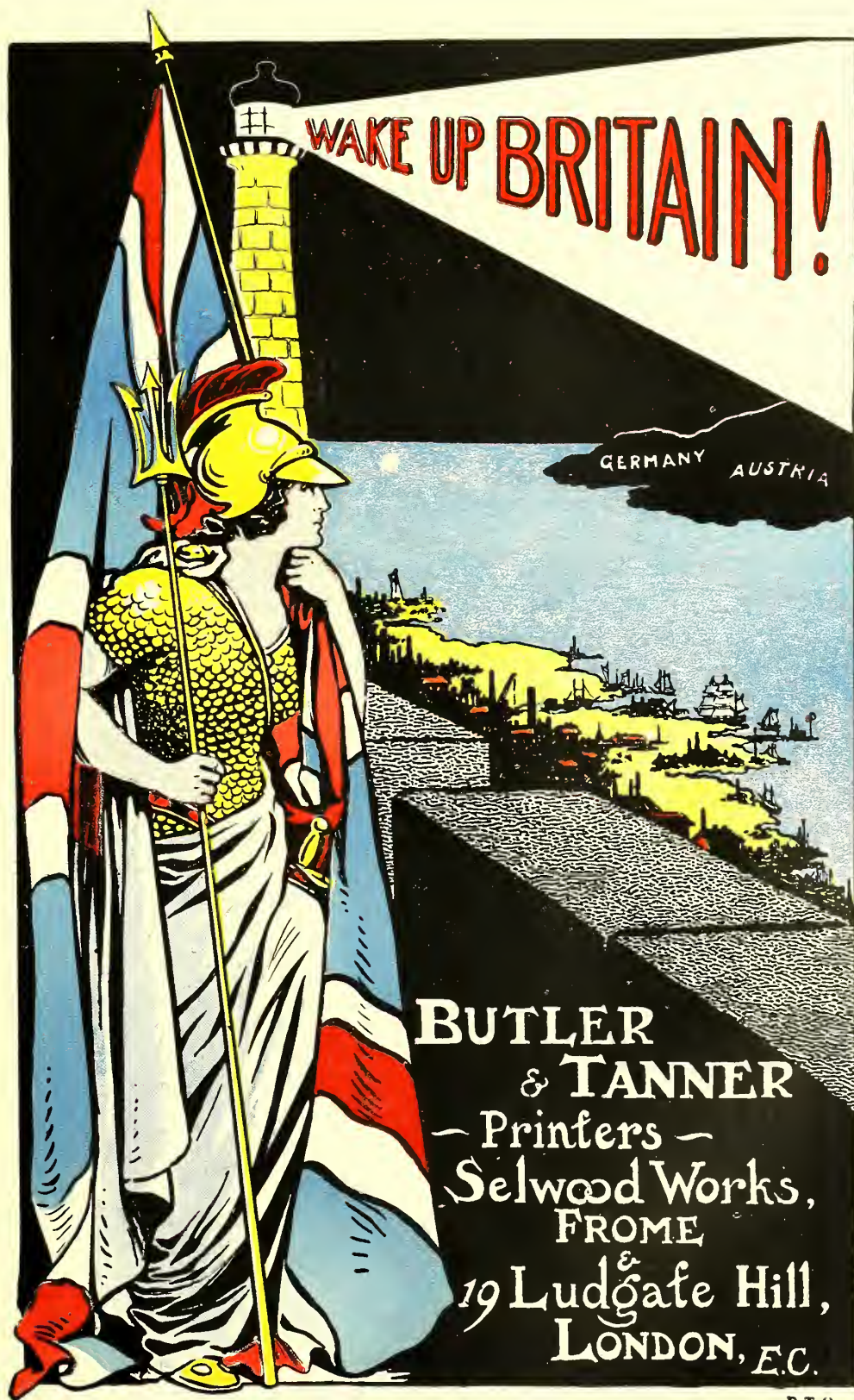


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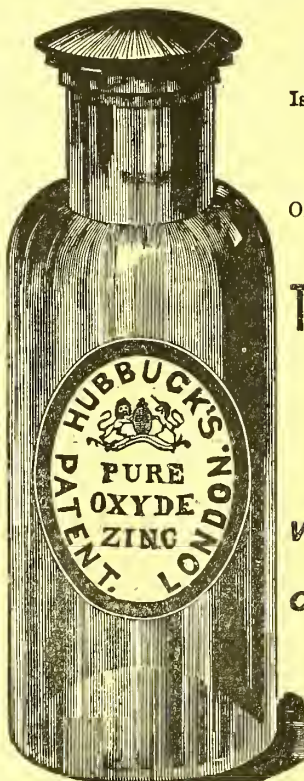
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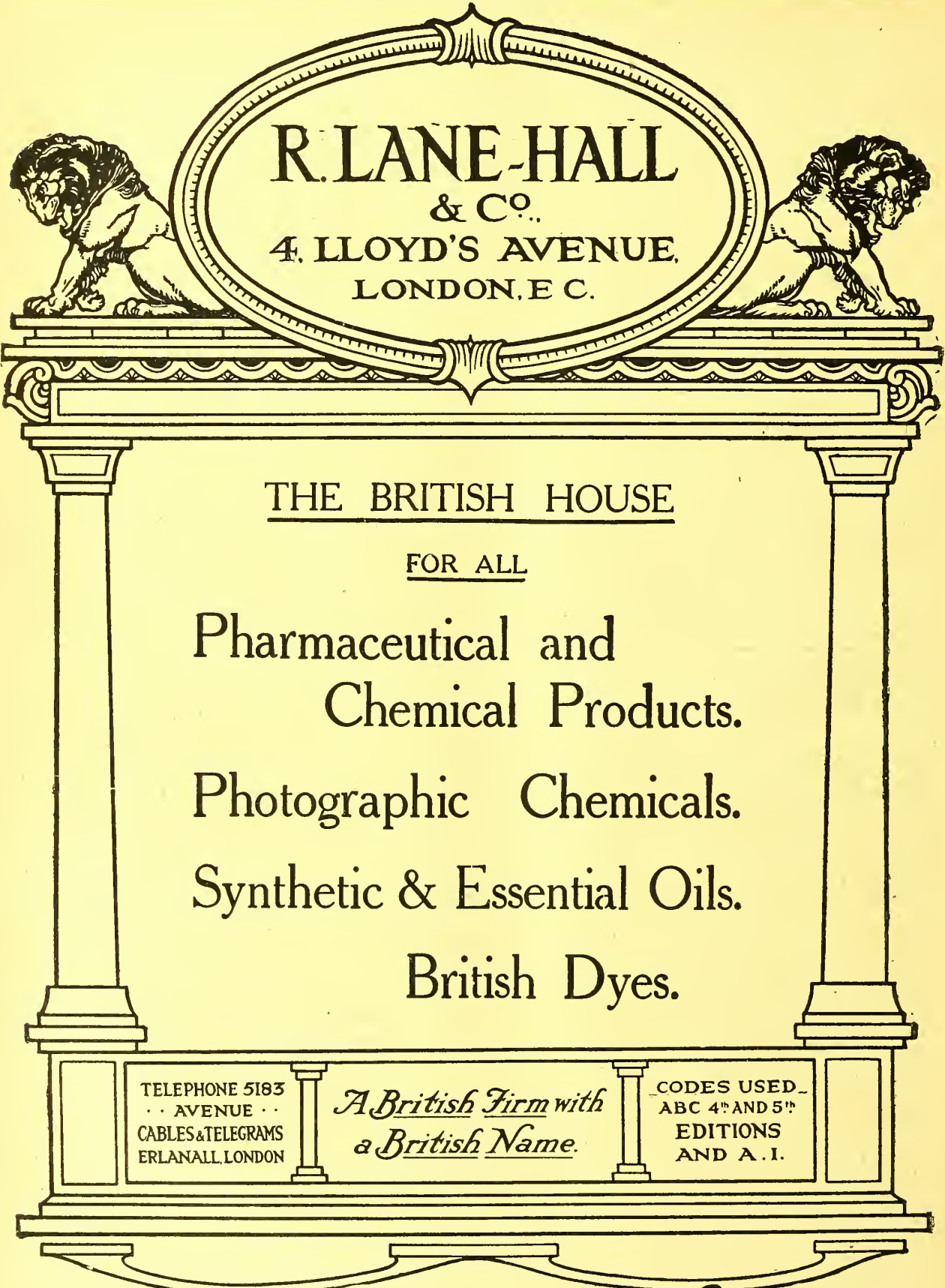
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Anise Oil

ALSO :

Quinine Chlorhydrate. Bismuth Subnitrate. Citric Acid.

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See also Advertisement on opposite page.

Santonine Pure Crystals.

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BEECHAM'S PILLS

**For ALL Bilious and Nervous Disorders,
Sick Headache, Constipation, Wind and
Pains in Stomach, Impaired Digestion,
Disordered Liver, and Female Ailments.**

The Sale now EXCEEDS SIX MILLION BOXES per Annum.

Druggists will find BEECHAM'S PILLS the MOST SALEABLE Patent Medicine in the Market.

IN BOXES, PRICE 1/3, 3/- AND 5/-

BEECHAM'S COUGH PILLS

STAND UNRIVALLED FOR

***Coughs, Asthma, Bronchial Affections,
Hoarseness, &c. &c.***

IN BOXES, 1s. 3d. AND 3s. EACH, WITH FULL DIRECTIONS.

Home Retailers of BEECHAM'S PILLS desirous of exhibiting Showcards or Dummies, and wishful to have a good supply of Handbills various sizes and colours, with name and address at foot, Oracles, &c., should apply to the Proprietor—

THOMAS BEECHAM, ST. HELENS, LANCASHIRE.

N.B.—Prices quoted herewith are for preparations according to the New Pharmacopœia, 1914.

PRICES ISSUED WEEKLY.

Original Packages can generally be supplied at the Current Prices quoted in the Trade Report of this Paper on Terms as below:

N.B.—We would draw attention to the fact that all prices quoted herein are subject to alteration without notice, and that where stocks are limited preference is always given to our regular customers.

Orris, English Ground, 1 cwt. @ 98/- cwt.; 7 lbs. @ 11½d. lb.
Oss, Sepiæ Pulv., 1 cwt. @ 70/-; 7 lbs. @ 9d. lb.
Otto Rosæ, finest, 1 oz. @ 30/- oz.; No. 2 1 oz. @ 21/- oz.
Oxymel Scillæ, B.P., 1 cwt. @ 65/- cwt.; *7 lbs. @ 8½d. lb.

Papain, 1-80, 1 oz. @ 3/- oz.
Parafinum Durum, B.P., 2 cwt. @ 5½d. lb.; 1 cwt. @ 6½d. lb.; 56 lbs. @ 6½d. lb.; 7 lbs. @ 7d. lb.; Mollæ Flav., B.P., 3½ cwt. @ 37/6 cwt.; 1 cwt. @ 44/- cwt.; 28 lbs. @ 5½d. lb.; 7 lbs. @ 6d. lb.; Alb. B.P., 3½ cwt. @ 74/- cwt.; 28 lbs. @ 9½d. lb.
Paraldehyd., B.P., 1 lb. @ 17/- lb.
Pepsin, B.P., 1 lb. @ 12/- lb.
Phenacetin, P.B., pulv., 1 lb. @ 90/- lb.
Phenazone, P.B., 1 lb. @ 70/- lb.
Phenolphthalein, 1 lb. @ 110/- lb.
Pix, Burgund., Druggists', 1½ cwt. @ 38/- cwt.; 7 lbs. @ 6d. lb.
Plumbi Acetas, Druggists', 1 cwt. @ 120/- cwt.; 7 lbs. @ 1/2 lb.; Powder, 1½d. lb. extra.
Podophyll. Resina, P.B., 1 lb. @ 15/6 lb.
Potassa Caustica Sticks, P.B., 1-lb. Bots. @ 14/- lb.
Potass. Acetas. Gran., P.B., 28 lbs. @ 4/5 lb.; 7 lbs. @ 4/8 lb.
Potass. Bicarb. Pulv., 4 lbs. @ 2/4 lb.
Potass. Brom. P.B., 7 lbs. @ 9/- lb.
Potass. Chlor. Pulv., 7 lbs. @ 2/10 lb.
Potass. Cit., B.P., 7 lbs. @ 6/- lb.
Potass. Cyanidum, 98%, 7 lbs. @ 4/3 lb.
Potass. Iod., P.B., 14 lbs. @ 15/3 lb.; 3 lbs. @ 16/- lb.
Potass. Metabisulph., 7 lbs. @ 3/3 lb.
Potass. Permang., Cryst., 2 lbs. @ 7/6 lb.
Potass. Prussias Flav., 7 lbs. @ 4/6 lb.
Pulv. Cretæ Arom. P.B., 14 lbs. @ 8d. lb.; c. Opio, B.P., 7 lbs. @ 2/6 lb.
Pulv. Glycyrrh. Co. B.P. (Green), English Ground, 56 lbs. @ 84/- cwt.
Pulv. Ipecac. Comp. P.B., 1 lb. @ 7/6 lb.
„ Jalap Comp. P.B., 1 lb. @ 2/1 lb.
„ Rhei Comp. P.B., 1 lb. @ 2/- lb.

Quassia Chips, 1 cwt. @ 40/- cwt.; 28 lbs. @ 5d. lb.
Quinine Bisulph., 10 oz. @ 4/3 oz.
Quinine Ethyl Carb. (Tasteless), 10 oz. @ oz.
Quinine Hydrobromas, B.P., 25 oz. @ oz.; 10 oz. @ oz.
Quinine Hydrochlor., B.P., 25 ozs. @ 3/10 oz.; 10 ozs. @ 4/- oz.
Quininæ Sulph., B.P., 100 oz. @ 3/- oz.; 25 ozs. @ 3/2 oz.; 10 ozs. @ 3/3 oz.

Rad. Gentian, English Ground, 1 cwt. @ 118/- cwt.; 7 lbs. @ 1/2 lb.
Rad. Glycyrrh. English Ground, 1 cwt. @ 72/6 cwt.; 7 lbs. @ 9d. lb.
Rad. Ipecac. Rio., 1 lb. @ 17/6.
Rad. Jalap, English Ground, 28 lbs. @ 1/4 lb.; 7 lbs. @ 1/5 lb.
Rad. Rhei, E.L., English Ground, 1 cwt. @ 1/5 lb.; 28 lbs. @ 1/8 lb.; 7 lbs. @ 1/9 lb.
Rad. Rhei, E.L. Trimmed, 7 lbs. @ 5/- lb.; 1 lb. @ 5/6 lb.
Resorcin, B.P., 1 lb. @ 125/- lb.

Saccharine, 7 lbs. @ 1 lb. *550 or *500, 1 lb. @ 1 lb.
Sacchar. Ust., 1 cwt. @ 52/- cwt.; 10 lbs. @ 7d. lb.
Safron, Valentia, B.P., 7 lbs. @ 41/- lb.; 1 lb. @ 42/6 lb.; 1 oz. @ 2/11 oz.
Sal. Acetos., 7 lbs. @ 2/5 lb.
Salicinum, B.P., 1 lb. @ 22/6 lb.
Salol, B.P., 1 lb. @ 42/- lb.
Sang. Draconis, pulv., English ground, 7 lbs. @ 2/10 lb.
Santoninum, P.B., 16 oz. @ 165/- lb.
Sapo Cast. Alb., 2 cwt. @ cwt.; 7 lbs. @ 6½d.; pulv., 1 cwt. @ 112/6 cwt.; 56 lbs. @ 1/1½ lb.; 7 lbs. @ 1/3 lb.; Animal pulv., 1 cwt. @ 95/- cwt.; 56 lbs. @ 100/- cwt.; 7 lbs. @ 1/- lb.
Scammony Resin, Pulv., B.P., 7 lbs. @ 6/6 lb.; 1 lb. @ 6/10 lb.
Shellac (Orange), 1½ cwt. @ 110/- cwt.; 7 lbs. @ 1/1 lb.
Soda Caustica, 6 1-lb. bots. @ 4/6 lb.
Soda Cit., B.P., 3 lbs. @ 4/11 lb.
Soda Sulphite, Recryst., 1 cwt. @ 25/6 cwt.; 7 lbs. @ 4d. lb.
Soda Sulphocarbolas, B.P., 7 lbs. @ 4/- lb.; 1 lb. @ 4/3 lb.
Sodii Bromid., P.B., 7 lbs. @ 6/6 lb.
Soda Hyposulphite, pea cryst., 1 cwt. @ 22/- cwt.
Sodii Salicyl. Pulv., 2 lbs. @ 16/- lb.
*Spt. Ether Nit. P.B., 4½ lbs. @ 4/2 lb.; 1 lb. @ 4/7 lb.
* „ Ammon. Aromat., P.B., 5 lbs. @ 3/9 lb.
* „ Chloroform, P.B., 5 lbs. @ 4/3 lb.
* Strontine Bromid., 1 lb. @ 11/6 lb.
* Strychnina Cryst. B.P., 4 oz. @ 3/0 oz.; Hydroch. and Sulphate, 2d. oz. less.
Sugar of Milk, P.B., 1 cwt. @ 155/- cwt.; 7 lbs. @ 1/6 lb.
Sulphonal, P.B., 1 lb. @ 26/- lb.
*Syr. Aurant, P.B., 7 lbs. @ 1/- lb.
* „ Easton, B.P., 7 lbs. @ 1/3½ lb.
* „ Ferri Iodid, P.B., 7 lbs. @ 1/7½ lb.
* „ Ferri Phosph. Co., 7 lbs. @ 8d. lb.
* „ Hypophosph. Co. B.P.C., 7 lbs. @ 1/1½ lb.
* „ Pruni Virg. B.P., 7 lbs. @ 10d. lb.
* „ Rhamni, 7 lbs. @ 1/1 lb.
* „ Rhei, P.B., 7 lbs. @ 11d. lb.
* „ Scillæ, P.B., 7 lbs. @ 7½d. lb.
* „ Sennæ, P.B., 7 lbs. @ 1/- lb.
* Simplex, 7 lbs. @ 6½d. lb.
* „ Tolut, P.B., 7 lbs. @ 10½d. lb.

Thymol, 1 lb. @ 33/6 lb.
Tinct. Aurantii Recens., B.P., 5 lbs. @ 4/5 lb.; Aqnos, 11d. lb.
*Tinct. Belladon., B.P., 5 lbs. @ 4/11 lb.; Aqnos, 1/10 lb.
*Tinct. Benzoini Comp., P.B., 5 lbs. @ 4/6 lb.; Aqnos, 1/3 lb.
*Tinct. Cantharidis, P.B., 5 lbs. @ 4/10 lb.
*Tinct. Capsici, B.P., 5 lbs. @ 3/3 lb.; Aqnos, 11d. lb.
*Tinct. Card. Comp., P.B., 5 lbs. @ 2/8 lb.; Aqnos, 1/1 lb.
*Tinct. Catechu, P.B., 5 lbs. @ 3/- lb.; Aqnos, 1/1 lb.
*Tinct. Chlorof. c. Morph., P.B. 1885, 5 lbs. @ 2/6 lb.
*Tinct. Cinchon. Comp., B.P., 5 lbs. @ 3/8 lb.; bond, 1/0½ lb.; Aqnos, 1/3 lb.

*Tinct. Cinchon. Rub., P.B., 5 lbs. @ 3/7 lb.; Aqnos, 1/3 lb.
*Tinct. Digitalis, B.P., 5 lbs. @ 4/- lb.; Aqnos, 1/3 lb.
*Tinct. Gelsem. P.B., 5 lbs. @ 3/5 lb.; Aqnos, 1/4 lb.
*Tinct. Gentianæ Comp., B.P., 5 lbs. @ 2/5½ lb.; Aqnos, 1/1 lb.
*Tinct. Hyocyam., B.P., 5 lbs. @ 4/5 lb.; Aqnos, 1/10 lb.
*Tinct. Iodi, B.P., 5 lbs. @ 5/6 lb.; Fort. @ 7/- lb.; decolor., 5 lbs. @ 5/7 lb.
*Tinct. Lavandulæ Comp., B.P., 5 lbs. @ 4/9 lb.; Aqnos, 1/1 lb.
*Tinct. Myrrhæ, B.P., 5 lbs. @ 4/7 lb.
*Tinct. Nucis Vom., B.P., 5 lbs. @ 3/8 lb.; Aqnos, 1/4 lb.
*Tinct. Opil, B.P., 5 lbs. @ 6/- lb.
*Tinct. Opil Aqnos, 5 lbs. @ 4/2 lb.
*Tinct. Quininæ Amm., B.P., 5 lbs. @ 3/6 lb.
*Tinct. Rhei Co., B.P., 5 lbs. @ 2/5½ lb.; Aqnos, 1/1 lb.
*Tinct. Scillæ, B.P., 5 lbs. @ 2/11 lb.; Aqnos, 11d. lb.
*Tinct. Senegæ, P.B., 5 lbs. @ 3/8 lb.; Aqnos, 1/6½ lb.
*Tinct. Strophanth., P.B., 5 lbs. @ 4/5 lb.
*Tinct. Valerianæ, 5 lbs. @ 3/5 lb.; Aqnos, 1/2 lb.
*Tinct. Valerianæ Ammon., P.B., 5 lbs. @ 3/10 lb.; Aqnos, 1/4 lb.
*Tinct. Zingib., P.B., 5 lbs. @ 4/10 lb.
*Tinct. Zingib. Fortior., 5 lbs. @ 5/2 lb.
Treacle (Black), 24 lbs. @ lb.
Turpentine (Best American), 1 gal. tins @ 5/9 each; Venice, Genuine, 9 lbs. @ 2/6 lb.

Ung. Acid. Boric, P.B., 28 lbs. @ 8½d. lb.; Flav., 28 lbs. @ 6½d. lb.
„ Acid. Carbolic, P.B., 28 lbs. @ 1/1 lb.; 7 lbs. @ 1/2 lb.; 1 lb. @ 1/6 lb.
„ Gallæ, P.B., 7 lbs. @ 1/2 lb.; 1 lb. @ 1/4 lb.; c. Opio, 7 lbs. @ 3/10 lb.
„ Hydragryri, B.P., 28 lbs. @ 2/9 lb.; 7 lbs. @ 2/11 lb.
„ Hydragr. Ammon., B.P., 28 lbs. @ 1/7 lb.; 7 lbs. @ 1/9 lb.
„ Hyd. Nit. Dil., 7 lbs. @ 1/6 lb.
„ Paraff. Alb., P.B., 28 lbs. @ 9d. lb.; 7 lbs. @ 10d. lb.; 1 lb. @ 1/- lb.; Flav. 28 lbs. @ 6½d. lb.; 7 lbs. @ 8d. lb.
„ Resinæ, P.B., 28 lbs. @ 1/2 lb.; 7 lbs. @ 1/3 lb.
„ Sulphuris, B.P., 28 lbs. @ 11½d. lb.; 7 lbs. @ 1/0½ lb.
„ Zinci Oxid. Benz., B.P., 28 lbs. @ 1/0½d. lb.

Wax, Japan, 2 cwt. @ 82/6 cwt.; 7 lbs. @ 10d. lb.

Zincl Oleat. Powder, B.P.C., 7 lbs. @ 3/- lb.
Zinci Oxid., 1 cwt. @ 95/- cwt.; 28 lbs. @ 11d. lb.; 7 lbs. @ 1/- lb.
„ Sulph. pure, 1 cwt. @ 50/- cwt.; 28 lbs. @ 6½d. lb.
„ Sulphocarbolas, B.P., 7 lbs. @ 3/11 lb.; 1 lb. @ 4/2 lb.

*Minimum quantity at these prices; Home Trade, 3 Winchester Quarts assorted; Export, 12 Winchester Quarts assorted.

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ACETONE SOAP. Surgical Detergent. Bots. 2/-; doz. 19/-
 ADRENALIN STERILES. 10 m. Boxes 3/6; doz. 33/-
 ADRECAINE STERILES. $\frac{1}{2}$ c.c. Boxes 3/6; doz. 33/-
 ALBUMIN TANNATE.
 ALKALOIDS. All varieties in stock. Write for Part I. of List.
 ALL-GLASS SYRINGES. Complete selection. A favourite is the
 "Vaccine" Syringe, 7/6.
 ALLYL SULPHIDE PREPS., in variety.
 AMIDOPYRIN. Oz. 6/6.
 AMYL NITRITE CAPSULES. 1 to 16 m. for Inhalation. Boxes 2/6;
 doz. 2/-
 ANALYSES. Every variety conducted. Full List on application.
 ANALYTICAL APPARATUS. All kinds in stock. See Part IV. of List.
 ANILIN DYES. Complete Selection. See Part IV. of List.
 ANTIFORMIN ANTISEPTIC. Details on application.
 ANTITOXINS. All kinds in stock. See Part I. of List.
 "ARSAMIN." New Organic Arsenic compound. Employed as Elixir,
 Injection, Pills. Injection in Sterules. Boxes 3/6; doz. 33/-
 ASTHMA POWDER. For burning. Bots. 2/-; doz. 19/-
 AURINARIA. Ear bougies, all forms. Boxes per doz. 8/-
 BACTERIOLOGICAL CHEMICALS, &c. See Parts I. and IV. of List.
 BARBITONE.
 BISMUTH AND PANCREATIN. A new Scientific Digestive.
 "BON VOYAGE." The name suffices. Bots. 2/9; doz. 27/-; also in
 tablets.
 BORIC ACID FOOT SOCKS. Per doz. pairs, 1/9.
 BOUGIES. All kinds and sizes in stock. See Part I. of List.
 BRAIN EXTRACT. Special Formula.
 BROMIDES. See Part I. of List or obtain special quotations.



BROMINE CAPSULES.
 1 c.c., 2 c.c., and 4 c.c.
 Per doz. boxes, 24/-,
 36/-, 54/-
 CACHETS. Empty and
 filled. See Parts I.
 and II. of List.
 CALF LYMPH. Tubes,
 doz. 5/- and 10/-
 CAPSULES, GELATIN &
 GLASS. See Parts I.
 and II. of List.
 CARBOLIC ACID,
 "COLOURLESS."
 Special quotations
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 ANTS. Our renowned
 Phenoloid cannot be
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 CATHA
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 Several
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'CAVENDISH'
 WATER.
 Aperient.
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 1/6; doz. 14/-

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 FOOD. See
 Part I. of
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CHILLIE
 PASTE.

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CHLOROFORM. Quoted on demand.

CICATRINE. Sterules. Boxes of 10 doz. 36/-



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 COD LIVER OIL AND EMULSION. Special prices on demand.
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 COPPER POINTS. Doz. 15/-
 COTARNINE, HCl.
 CREMOR SICC. PREPS. Full List see Part II.
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 EAR AND NOSE SYRINGES. Full List see Part III.
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 nesian Aperient" is known
 all the world over. 1/6, 14/-,
 2/6, 24/-, 3/6, 33/-
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 LECITHIN. See Part II.
 EMETINE "STERULES" FOR
 AMEBIC DYSENTERY.
 ERYTHROL NITRATE TABLETS.
 $\frac{1}{2}$ and 1 grain boxes.
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 EUCALYPTUS OIL. Market rates
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 EXTRA PHARMACOPŒIA.
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FÆXIN. Boxes 2/-;
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FORMALIN-MILK
 SUGAR TABLETS.
 Bottles of 100 each,
 1/6; doz. 14/-

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GAUZES. See Part III. of List.
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 For prices see Part I. of List.

GLYL & SYL FLAVOURINGS. For dis-
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HÆMOGLOBIN CAPSULES. Box 1/-
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HAY FEVER REMEDIES. Suprarenal Snuff,
 Adrenol, Asthma Powder, &c.

HAZEL FOAM. Original Pots,
 1/- each; doz. 9/-

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"HINDU DATES." A mild Laxative.

Two strengths, for Adults and Children. Boxes 1/-; doz. 9/-

HYDROGEN PEROXIDE. "SOLID."

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INDIAN DRUGS. Full stock.
INFANTS' FOODS. Nourishing, convenient in use. Original 1lb. tins, 1/6; doz. 14/-.
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IODINE STERILISING CAPSULES. Glass, for First Aid.
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LAMBKIN'S INJECTION OF MERCURY. Bots. 3/-; doz. 30/-.
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LEVULOSE.
LIQUOR SANTAL CUM KAVA. Bots. 7/6; doz. 72/-.



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LITHION. Bots. 4/6; doz. 43/-.
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MENTHOL. See Part I. of List.
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MOSKITIN. Effectually wards off mosquitoes. Bots. 9/-; doz. 19/-.
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MULLS OINTMENT.
NASAL DOUCHES AND IRRIGATORS. See Part III. of List.
NEBULÆ. For complete range, see Part II. of List.
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NUTROSE.



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OLIVE OIL. See Part I. of List.
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OXYGEN. 20ft. Cylinders in stock.
OXYQUINOLINE SULPHATE.
OZONIC INHALERS, with medicament. Each 1/9; doz. 19/-.
PACKED GOODS of all kinds. Write for List.
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PAVIMOL. Replaces Cod Liver Oil.
PEPSIN TABLETS (Chocolate). Per box 2/- and 3/6; doz. 19/- and 23/-.

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PILLS. See special List, Part II. b.
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PIPERAZIN GLYCEROPHOSPHATE. See Part I. of List.
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"PURA" SOAP. Per box 2/-; per doz. boxes 18/-.

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RADIUM BROMIDE. Purest obtainable. Price quoted on application.
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RESORCIN HAIR LOTION. Bots. 2/- and 3/6; doz. 19/- and 33/-.
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SALIPYRIN.
SANTALOL CAPSULES. Per box 2/6; doz. 24/-.
SCARLET RED. Also **STAINLESS SCARLET RED.**
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SENSITISED VACCINES.
SILVER PROTEINATE.
SODIUM CITRATE TABLETS for Milk. Bots. 1/6; doz. 14/-.
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SPHAGNUM. See Part III. of List.
SPONGES, SURGICAL. See Part III. of List.
SPITTOON, PHTHISICAL. See special leaflet sent on application.
SPRAY APPARATUS. All varieties. See Part III. of List.
STEARETTES (Reg. Trade Mark). For drugs intended for intestinal administration. See Part II. of List.
STERILISED DRESSINGS. See Part III. of List.
"STERULES" (For Hypodermic and Eye use). See Part II. of List.
SULPHUR SOCKS. Per doz. pairs 1/9.
SUPRARENAL PREPARATIONS. See Part I. of List.
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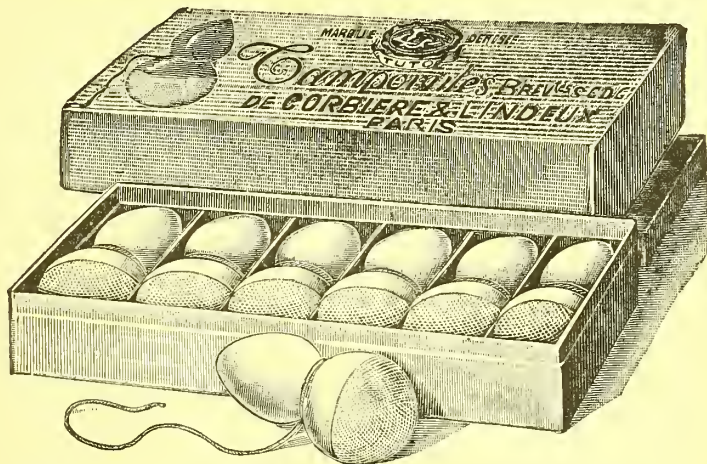


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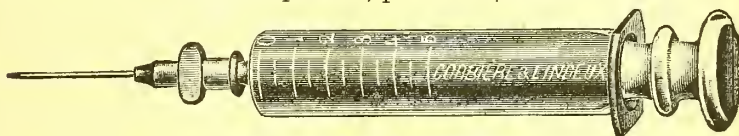
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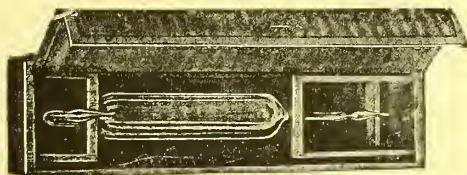


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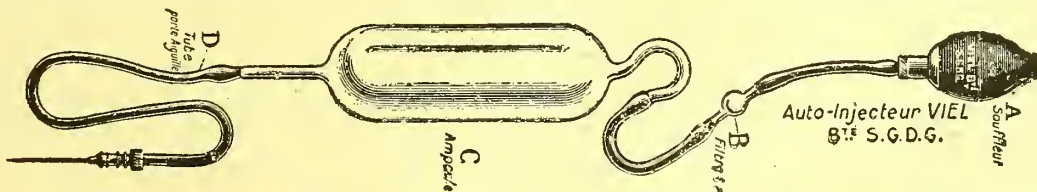
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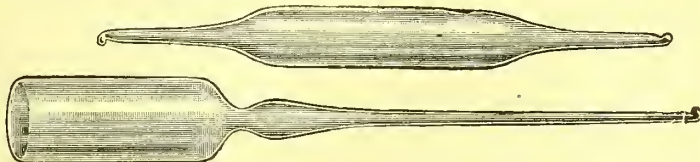


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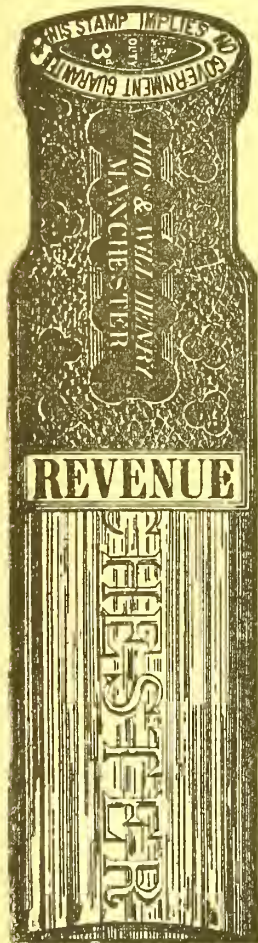
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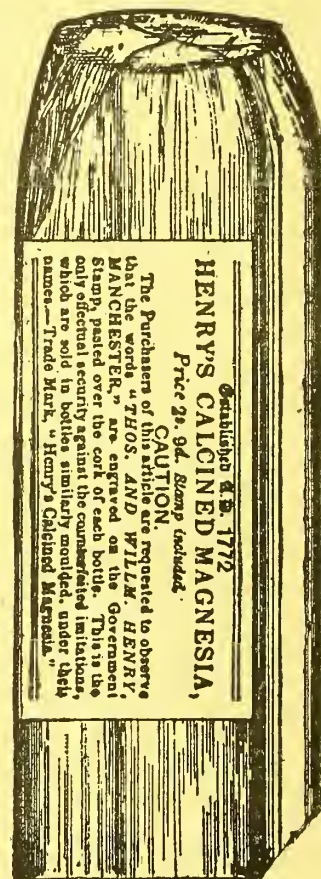
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British Medical Journal, July 24, 1915; November 13, 1915; January 29, 1916.
The Lancet, February 5, 1916; February 12, 1916.

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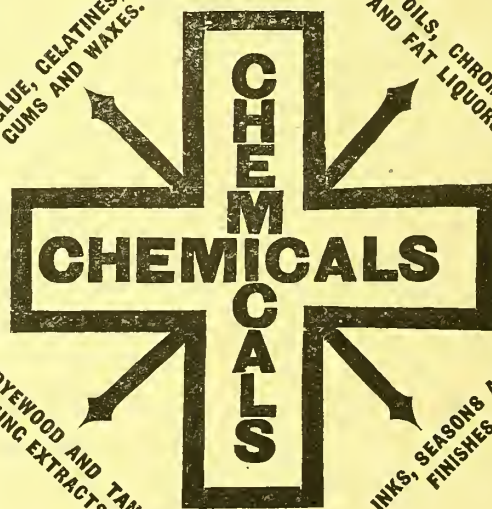
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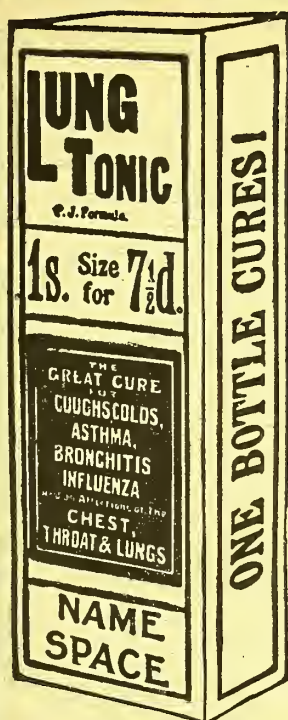


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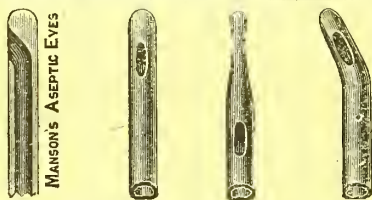
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(with 15% by weight
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Zee-Kol is a scientific production of great curative and antiseptic qualities, so well blended together that it forms a skin ointment of great value to sufferers from skin diseases. It has been proved that it cures all the skin diseases that we publish in our numerous advertisements.

LARGE ADVERTISING CAMPAIGN STARTS AT ONCE.
SEE THAT YOU ARE WELL STOCKED.

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CROSBY'S BALSAMIC COUGH ELIXIR Dr. ROOKE'S SOLAR ELIXIR Dr. ROOKE'S ORIENTAL PILLS

In view of the extensive demand created for these products by our new advertising campaign, and in order that your customers shall secure these articles in their best possible condition, the Proprietors give notice that they are willing to exchange any old or soiled stock for new stock.

The NEW PRICES are as follows:—

Size	1/3	3/-	5/-	12/-
Minimum Retail Price	1/2	2/11	4/10	11/6
Wholesale (per dozen)	11/8	29/6	48/-	117/6

Discount.—10 per cent. on parcels of £5 and upwards, cash at 14 days (otherwise strictly net).

Packages.—Free. Carriage paid on £5 parcels.

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AND ALL OPIUM PRODUCTS

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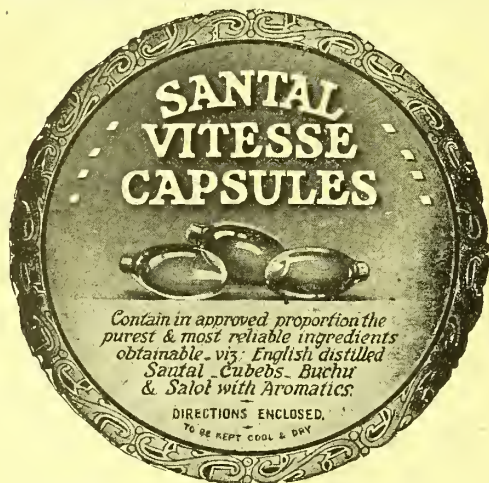
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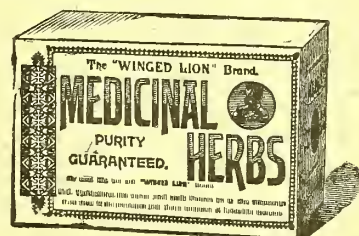
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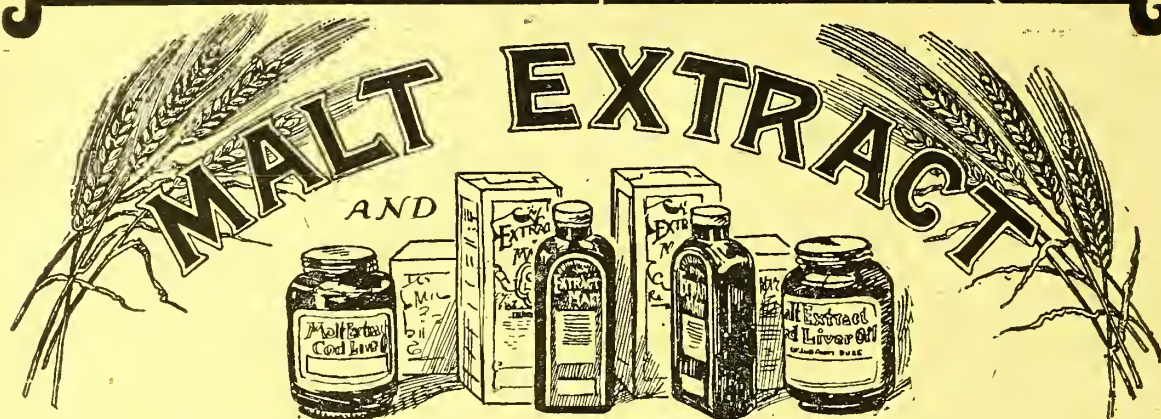


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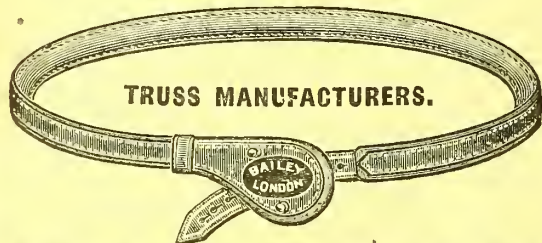
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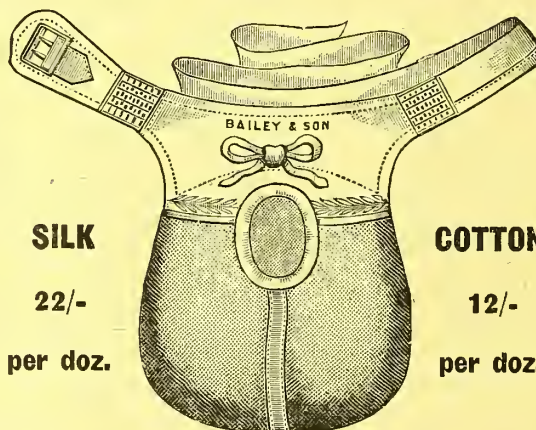
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Specials Dispatched in 24 hours.*Illustrated Price List Free.*

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COTTON**12/-**

per doz.

Assorted—A, small ; B, medium ; C, large Bags.

A COMPLETE REGISTER IS KEPT FOR ALL REPEAT ORDERS.**BAILEY'S
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BOTTLES.****VERY BEST RUBBER at lowest prices.**

Fig. 1.

Fig. 1
or

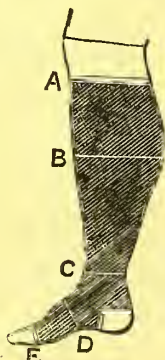
Fig. 2

Sizes.

	s.	d.
10 x 6 ...	3	10
12 x 6 ...	4	2
10 x 8 ...	4	9
12 x 8 ...	5	6
14 x 8 ...	5	10
12 x 10 ...	6	4
14 x 10 ...	7	5



Fig. 2.

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ELASTIC
STOCKINGS.**SPECIALS can always
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per pair, 5/5, 7/-

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“HYDRION” A Powerful Antiseptic Tablet quickly soluble in water: for Dressing Skin Wounds, Lacerations, Compound Fractures, Burns, &c.

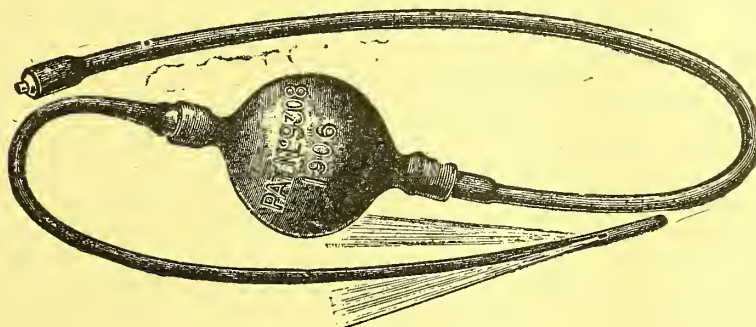
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Less Professional
Discount.



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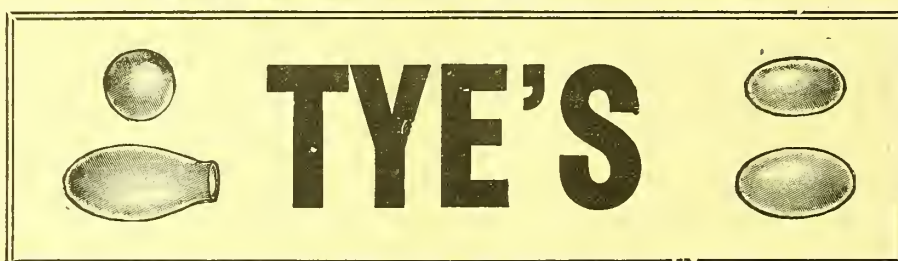
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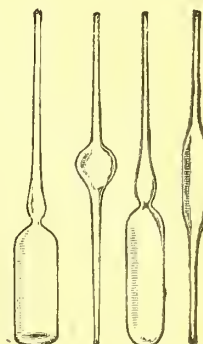
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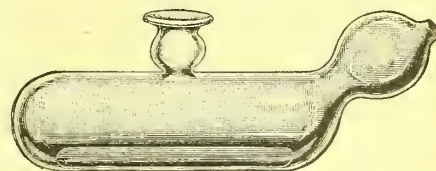


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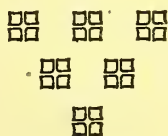
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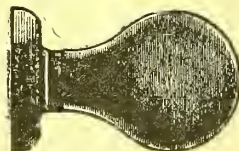


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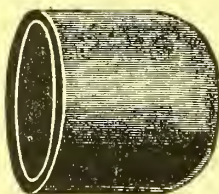
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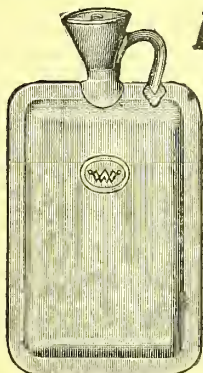
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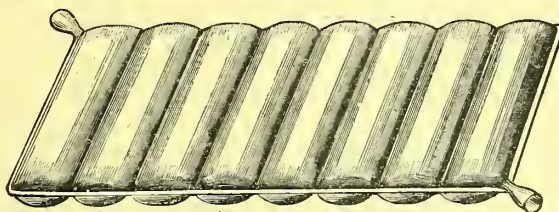
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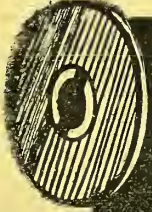
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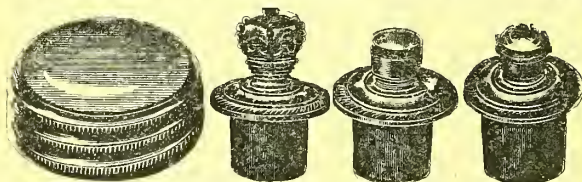
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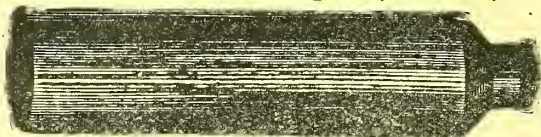
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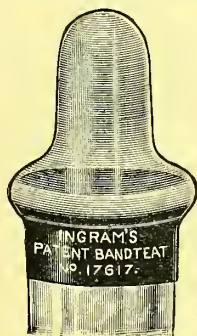
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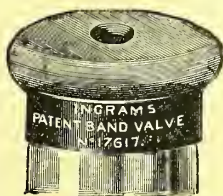
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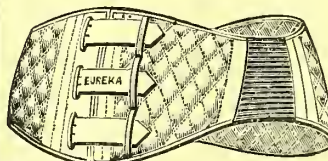
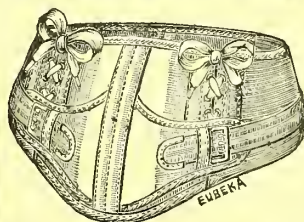
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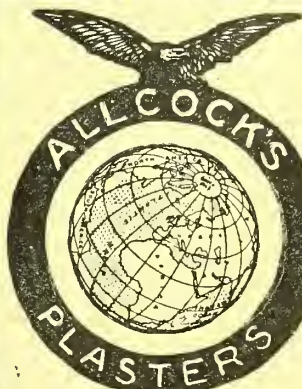
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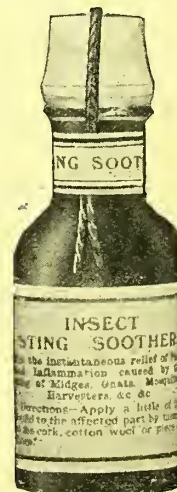
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